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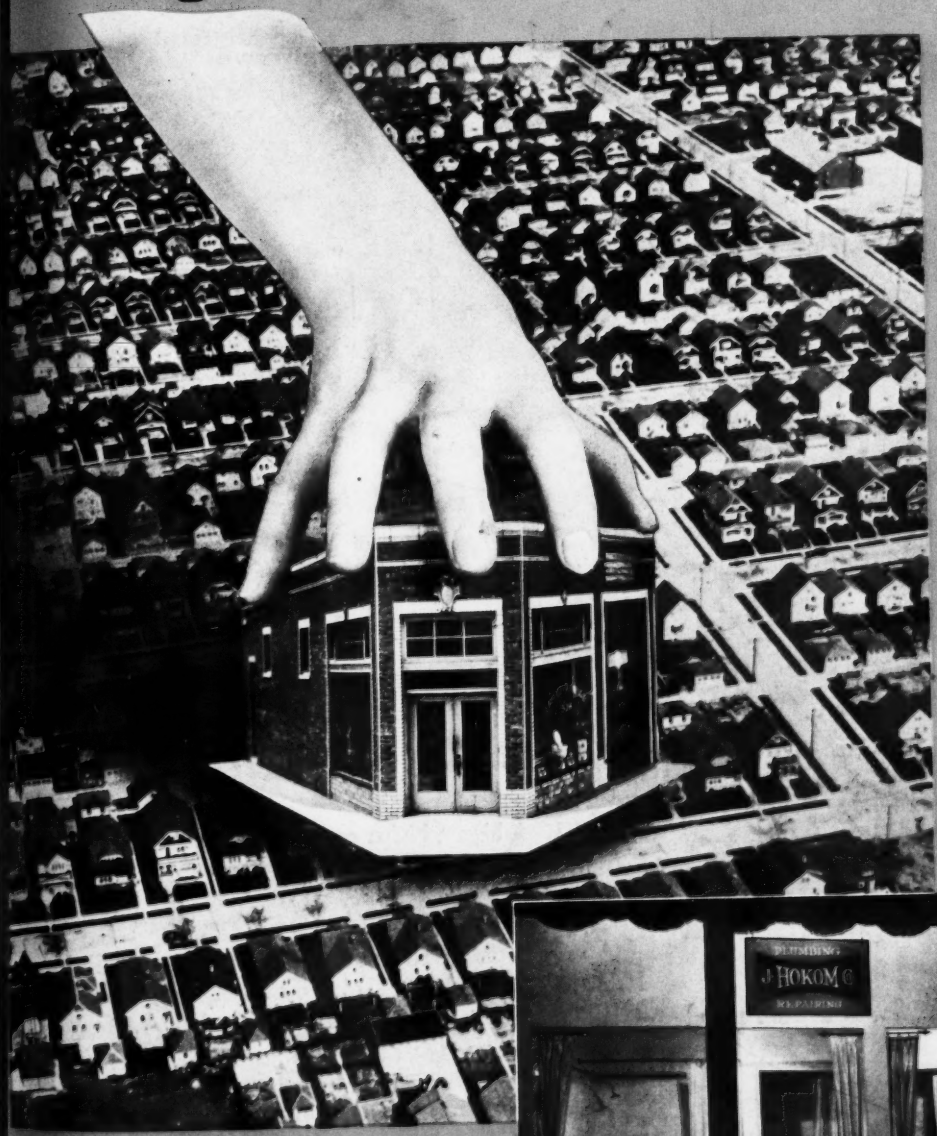
DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising



Selecting the Proper Location for a Retail Store

Lighting for Better Business

MARCH 22 1930

» » this NEW

KEWANEE STEEL BOILER

for Homes and Smaller Buildings

Yes, NOW a steel boiler—a Kewanee Steel Boiler—for heating homes and smaller buildings, giving these, as well as large structures, the advantages of Kewanee design, engineering and sturdiness.

Here is a boiler which can be relied upon to give *extra years of service.*

These distinctive features mean more heat with less fuel:

1. A bigger, higher combustion chamber.
2. The right-side-up Crown Sheet.
3. Long two-pass travel of gases.
4. More generous steam space.

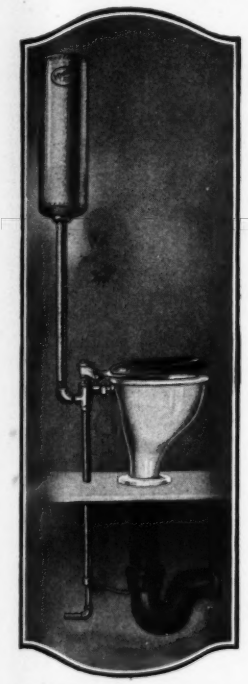
Actual tests prove the Kewanee Type "R" has an operating efficiency that is remarkably high for a small heating boiler.

For every fuel—Coal, Oil, or Gas. Sizes to heat 370 to 1960 square feet of radiation. Details in Catalog No. 88.

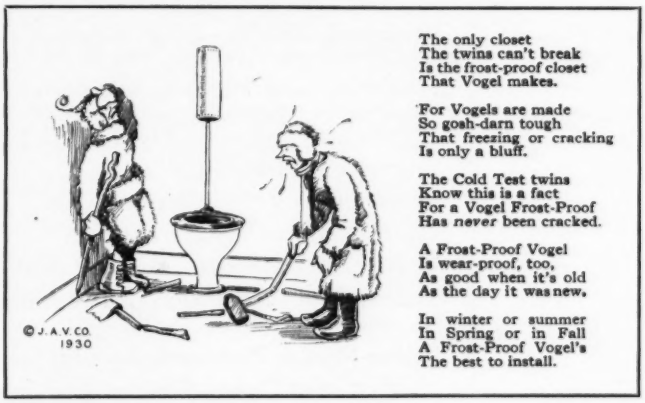
« KEWANEE BOILER CORPORATION »
division of American Radiator and Standard Sanitary Corporation
KEWANEE, ILLINOIS *Branches in Principal Cities*
MEMBER OF STEEL HEATING BOILER INSTITUTE

YOU WILL INSTALL MORE VOGEL FROST-PROOF CLOSETS AND HYDRANTS THIS YEAR THAN EVER BEFORE BY WORKING WITH OUR ADVERTISING

THROUGH our publication advertising and tremendous direct-by-mail campaigns, we are building a still greater demand for **VOGEL** Frost-Proof Closets and Hydrants than ever before. Now that the weather is breaking, this demand is going to result in orders for the **VOGEL** Number One Frost-Proof, and the **VOGEL** Frost-Proof Hydrants.



Number One Vogel Frost-Proof Closet. Simple in operation. Sturdy in construction. Half a million in operation.



The only closet
The twins can't break
Is the frost-proof closet
That Vogel makes.

For Vogels are made
So gosh-darn tough
That freezing or cracking
Is only a bluff.

The Cold Test twins
Know this is a fact
For a Vogel Frost-Proof
Has *never* been cracked.

A Frost-Proof Vogel
Is wear-proof, too,
As good when it's old
As the day it was new.

In winter or summer
In Spring or in Fall
A Frost-Proof Vogel's
The best to install.

Vogel Frost-Proof Hydrant

Don't neglect this market. Private and public garages, yards of all sorts, farms, dairies, are all good prospects for Vogel Frost-Proof Hydrants. A great convenience any place.

Every **VOGEL** installation pays you a good profit, so write us for folders and blotters imprinted with your name and address, and be ready for your biggest and most profitable year with **VOGEL** Frost-Proof Closets and Hydrants.

See inside back page for VOGEL SELFLUSH advertisement.

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

VOGEL PATENTED *Frost-Proof* Products

DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising

Established 1889

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WOLVERINE

COMPLETE-DEPENDABLE
•THE WOLVERINE LINE•

MASTER PLUMBERS favor Wolverine Brass Goods and Specialties

In the Wolverine line they find what they need — plus the assurance that any Wolverine item will uphold the honesty of their own workmanship.

Exhaustive and intelligent study of Master Plumbers requirements has made the Wolverine line complete.

The Policy of the Wolverine Brass works has made these products dependable.

WOLVERINE BRASS WORKS

GRAND RAPIDS WB MICHIGAN

Between Ourselves

DON'T do this and don't do that. The plumbing contractor's life is full of "don'ts", and just so that he won't forget them, we are publishing an article full of them, "Plumbing Don'ts", by R. M. Starbuck, Jr. This series of "don'ts" tells the master plumber just about everything not to do except which stock not to buy on a margin . . . . Don't fail to read Mr. Starbuck's list of commandments.

"WATCH your sails, Mister!" In the old days of the windjammers when that cry rang along the deck it meant that the man at the wheel had lost the "feel" of the wind; his ship was losing the full value of the driving wind. Many a man's banker, or his balance sheet, or his own intelligence, has cried to him, "Watch your sails, Mister," and gone unheeded. You can't set a ship on a course, lash the wheel, and forget about it, nor can you set a course for a business and figure that you have made the last decision necessary in your business career. Certainly the individual who tells you the story "Specialized Plumbing" found out, before it was too late, that he was spilling the wind out of his sails—the wind had veered long before he changed his course. But he did; and after all, that's what you want to know—that he did fill his business sails, and how.

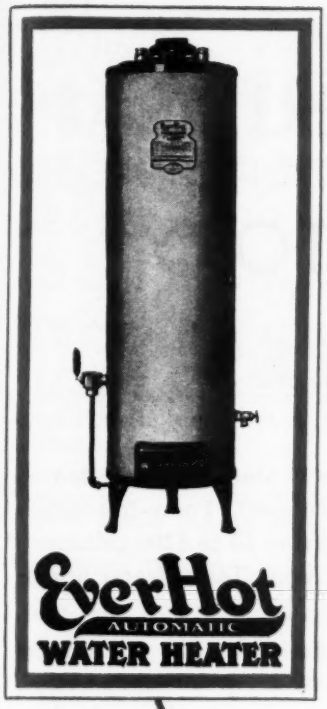
Thank You!

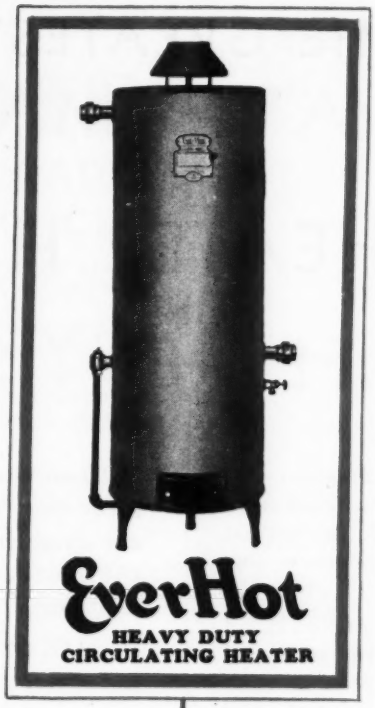
"I HAVE been reading DOMESTIC ENGINEERING ever since its first edition and while, during the past several years, I have covered almost the entire American continent, I have managed to get the latest editions, and your magazine has been a source of great pleasure to me as well as much actual profit in selling."—A. R. Gilmore, St. Louis, Mo.

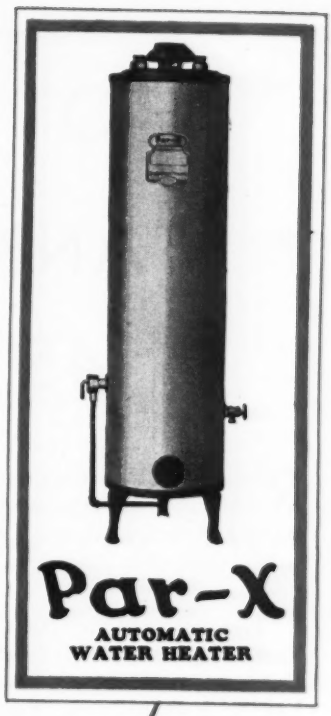
IF YOU want to learn some things about radiation, I would suggest you read H. T. Hall's article on "Underheated Rooms." What Mr. Hall tells you about radiation is always worth knowing, and in addition to that, he knows how to write about such things. This particular article is full of handy formulas showing how to figure and calculate the amount of radiation needed to secure an inside temperature of 70 degrees, or whatever you wish, with any given outside temperature, for both steam and hot water heating systems. For the busy man it is a great simplifier.

Your Editor

The man who is so busy that he does not have time to read his trade paper is like the man who was so busy chopping wood that he did not have time to sharpen his axe







Here Is Everything

YOU NEED

TO GET AUTOMATIC WATER HEATER BUSINESS!

Regardless of the size or type of job, there is an EverHot or Par-X Automatic Water Heater to furnish Perfect Automatic Hot Water Service, and you can get all classes of business without regard to size, quality or price when you specialize on EverHot Products.

The EverHot is made in four sizes to furnish hot water, from the modest cottage to the large homes with three and four bathrooms.

For homes equipped with brass pipe, there is the EverHot with the Steel-Clad PURE Copper Boiler.

For installations where a large amount of hot water must be immediately available, there are the EverHot Heavy Duty Circulating Heaters to be connected with large storage tanks. These heaters have 1½-inch openings for circulating lines, and they may be used on hot water heating jobs, too.

The Par-X is the quality heater to sell when price must be considered.

You don't have to jump from one line to another to sell any class of business. Specialize on EverHot Products and your profit is a clean one on each sale.

WRITE FOR FOLDERS! **ASK FOR PRICES!**

Products of

EverHot Heater Company

5211 WESSON AVENUE DETROIT, MICHIGAN

THE GREATEST HOT WATER MACHINE IN TANK HEATER HISTORY IN 45 DIFFERENT SIZES

RECOGNIZING that the Tank Heater principle is the real solution of the hot-water-supply question, Evins F. Glore & Son set out to develop this principle on a business-like basis.

The result is the GLOCO line of Red Band Tank Heaters, which is giving the trade and the public an entirely new conception of tank heater possibilities, both in volume and profits.

All advantages hitherto known that make for fuel-saving, long life, and salability, were studied, perfected, and embodied in the GLOCO design, and other improvements besides.

Every genuine GLOCO TANK HEATER is circled with a broad, distinctive red band, adding to its attractiveness and ready identification.

Then the GLOCO line was extended to meet every capacity need. Forty-five different sizes, ranging from 40 to 5200 gallons — the most comprehensive Tank Heater line in existence!

GLOCOS are quick-acting, economical hot-water machines. They are made better, are longer-lasting, and are sold by leading wholesalers throughout the United States. Write us for name of wholesaler near you who carries them in stock.

EVINS F. GLORE & SON, INC.
Grand Central Terminal Bldg., New York City

"LOOK FOR THE RED BAND OF QUALITY"

RED BAND TANK HEATERS

The MAYFLOWER

ELECTRIC REFRIGERATOR DESIGNED AND PRICED TO GET BUSINESS FOR YOU

Deliberately Trupar set out to create electric refrigerator models so superior in quality, yet so low in price, that, with them, you could confidently meet the keenest competition—the most exacting demands—and obtain your share of this desirable business.

In pioneering the sale of electric refrigeration through the plumbing trade, Trupar has given much special thought and study to the type of product that will best meet the needs of the industry. Obviously, a refrigerator, to be your choice and the choice of your customers, must have such point for point superiority that it will be purchased on its demonstrated merits over others.

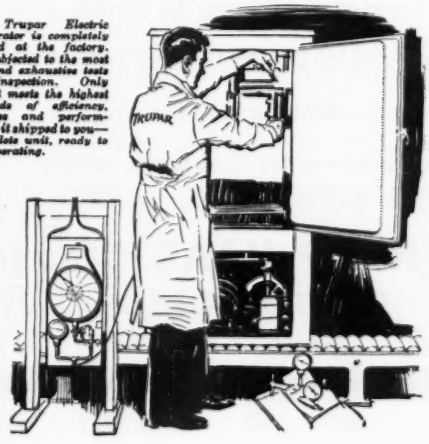
Knowing this, Trupar drew upon a decade of experience in building and marketing domestic refrigeration to produce the MAYFLOWER.

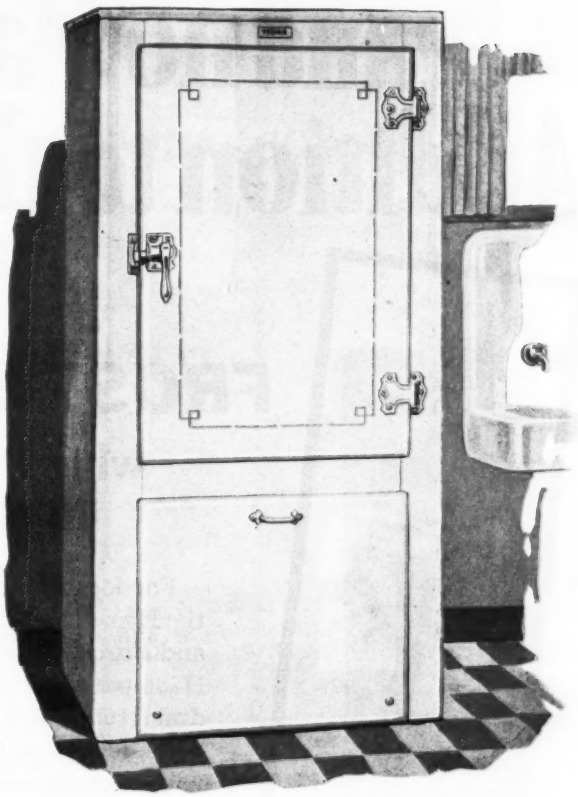
Critical comparison of the Mayflower with any other make will convince you, or your most skeptical customer that Trupar has succeeded in its aim. Never before has such outstanding value been offered. In beauty of design and finish, in capacity and insulation, in quiet efficiency and low cost of operation, or in any way you may choose to judge, the Mayflower is preeminent, though *its price is appreciably lower*.

Trupar also makes two larger domestic models—both self-contained and factory installed, as is the Mayflower.

FACTORY INSTALLED

Each Trupar Electric Refrigerator is completely installed at the factory. It is subjected to the most rigid and exhaustive tests and inspection. Only when it meets the highest standards of efficiency, quietness and performance, is it shipped to you—a complete unit, ready to start operating.





A COMPLETE UNIT
NO INSTALLATION PROBLEM

Every Trupar Residence Model Electric Refrigerator comes to you as a complete unit—needing only to be plugged into the handiest socket to start operating. It's as simple as an electric iron, or a coffee percolator.

Don't overlook this real opportunity to increase your business and your profits. Mail the coupon today!

TRUPAR

"Performance as Promised"

140 DAVIS AVE. DAYTON, OHIO

TRUPAR MANUFACTURING CO.
Dayton, Ohio.

Send us full particulars regarding your MAYFLOWER Model.

Name.....

St. and No.....

City and State.....

D-3.

---and now an Important Addition to the Haas Line

A HAAS FROST-PROOF CLOSET

with Porcelain Enameled Flushing Rim Hopper

For localities where a flushing rim unit is required—use the Haas Frost Proof Closet with porcelain enameled hopper and *Porcelain enameled* Flushing Rim. Has the original Haas patented automatic seat action valve and stem with drain tube, and with combination check and inlet valve. Same high quality as always furnished in Haas frost proof valves, seats, and other equipment. The old models have not been discontinued, but this new model—with same valve that has been so successful in previous models—has been developed to meet a growing need.

The usual Haas guarantee, backed by 25 years of Haas success, covers each Haas Frost Proof Closet. The price is reasonable, as Haas prices are—and your jobber can supply you.

You can find these excellent features nowhere else but at Haas

1—No backwash of sewage into fresh water lines.

2—Valve of brass—phosphor bronze springs—only two washers.

3—Unusually simple construction—easy to install.

4—Complete operating rod lifts out of casing intact.

5—Time-proved efficiency—little or no servicing.

6—A price that makes sales—sales that make profit.

Haas

THE PHILIP HAAS CO., Inc.
DAYTON, OHIO

SIDE ARM HEATERS

put every customer in your community

ON YOUR SALES FORCE!

AND you may be surprised at how much business they can turn your way.

Very ***profitably*** surprised!

For when any home owner, apartment owner, or builder needs a new hot water system, there's just one thing he'd like to know.

Is it going to be completely satisfactory?

And Side Arm Automatic Storage Heaters answer that question more convincingly and more economically than it has ever been answered before. ***A triple guarantee is actually engineered into the design of the heater itself!***

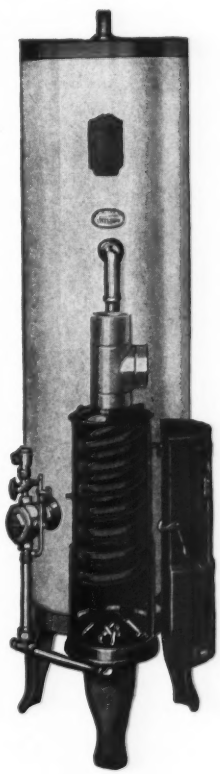
(1st) A Guarantee of long-life tank service, because the tank is never exposed to corrosive gas or flame;

(2nd) A Guarantee of quick hot water service indefinitely —whose only maintenance cost at most can only be the replacement of the inexpensive coil;

(3rd) A Guarantee of clean hot water because the water to be heated is drawn from tank ***above*** the sediment line.

So, every Side Arm Heater you sell adds one more owner to your sales staff—boosting your store—your square dealing—your genuine co-operation to ***his*** friends. And he can tell them and show them how the "triple guarantee" is absolute evidence of definite year after year satisfactory service.

Don't delay getting this business! And we know you want to do the job up "brown," so you'll want to give your customers the extra value that Hotstream's many new features so positively assure. Write today for full details.



No. 20SA

List Price $66 Complete

THE HOTSTREAM HEATER COMPANY

"Makers of Heaters that Heat"

Cleveland, Ohio

HOTSTREAM AUTOMATIC STORAGE HEATERS

Williams' NEW

"VULCAN SUPERIOR"

offers these Advantages

EITHER FLAT CHAIN OR CABLE CHAIN
ON FITTINGS
ON PIPE
WORKS EASILY IN CLOSE QUARTERS
"V" RECESS IN JAWS GRIPS FITTINGS
JAWS ARE REVERSIBLE — DOUBLE LENGTH OF LIFE
VULCAN
No3 VULCAN SUPERIOR

WILLIAMS' "Vulcan Superior" is made for universal service on BOTH pipe and fittings—TWO tools in ONE. Unusually efficient in close quarters.

"V" recess in the jaws gives quick, positive grip on fittings. "Vulcan Superior" has a greater number of grips on both pipe and fittings than ordinary tongs. Chain locks easily and positively.

Always ready for instant use on either pipe or fittings, without any change in the tool itself. The ONLY chain tongs with reversible pipe and fittings jaws. When the teeth first in use wear, simply turn the jaws end-for-end.

Each flat chain is individually proof-tested and CERTIFIED—assured safety for the operator. Fully guaranteed. Ask for literature.

7 sizes for Pipe and Fittings, ⅛ to 12 in.

Patent Pending

J. H. WILLIAMS & CO.
"The Wrench People"
New York BUFFALO Chicago

WILLIAMS
SUPERIOR DROP-FORGED TOOLS
VULCAN SUPERIOR
PIPE AND FITTINGS TONGS

THE CELEBRATED SKIP TOOTH DIE
(Genuine Nye)
REG. U. S. PAT. OFFICE

A Letter from Harry G. Nye

March 22, 1930.

To the Plumbers and Steamfitters of the U. S. A.

About 300 Words about 500 Words

Fellow Citizens:

I see that Cal Coolidge is going to write a 500-word history of the United States. Well, if anybody can, Cal can. He ran this country seven years on less than that. Cal never said "thank you" when "thanks" would do just as well. I'll bet he turned down many a salesman trying to sell him a battleship because "no" is shorter than "yes." It must have been pretty tough to lug a battleship 'way up to the white house, and then run up against a customer who didn't even try to cut the price.

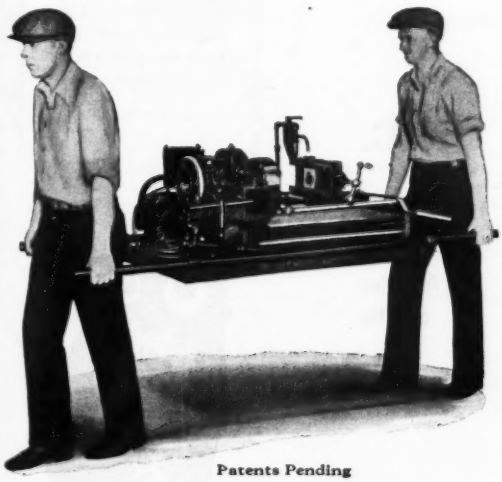
You can't help but wonder what words Cal will use, and how he will use them. He isn't a man to wear out a new typewriter ribbon, just because he is getting $10 a word. Just think of it, $10 a word. I never got anything like that for any of mine. Of course, I've paid that, and more. I once paid $200 for two words that another fellow said. What he said was "four aces." And a lot of men have paid a lot more than that because some woman said "yes."

Cal certainly ought to mention Columbus, to begin with. Nice shape we'd be in if we'd never been discovered. And what would a lot of fellows do for liquor? Probably just what they do now. And George Washington, the man who never told a lie; and left no descendants. He will certainly have to mention the father of his country, and also the D. A. R. And the war of 1812, and the panic of 1873, and the Buick of 1930. And the war between the states. I mean Florida and California.

And there was the Mexican war, and the Indian wars, and the Spanish-American war, and several price wars. And there was the stock market slump of 1929. Cal ought not to forget that. Nobody else ever will. And several other calamities. And the talkies, which, strange to say, were invented during Mr. Coolidge's administration.

No, sir, we don't see how Cal is going to cover it in 500 words. It would be as hard to do as to tell in 500 words the superior merits of Nye tools.

Truthfully yours, Harry G. Nye



Patents Pending

"THE LIGHTWEIGHT CHAMPION"
Threads—Cuts Off and Reams
CAPACITY ½ to 2 INCHES

OTHERWISE KNOWN AS
THE NYE TOOL & MACHINE WORKS
4120-30 Fullerton Avenue Chicago, Ill.

Copyright 1930 by Harry G. Nye
All rights reserved

THE CELEBRATED SKIP TOOTH DIE
(Genuine Nye)
REG. U. S. PAT. OFFICE

WISECO PRODUCTS

This HANDY BATH COMBINATION consisting of BATH COCK, WASTE and OVERFLOW and SUPPLIES complete in one package is a great convenience and a big time saver for both the jobber and the plumber.

ASK FOR IT

J. B. WISE, INC.

WATERTOWN, N. Y.

New York
Philadelphia
Atlanta

Chicago
Los Angeles
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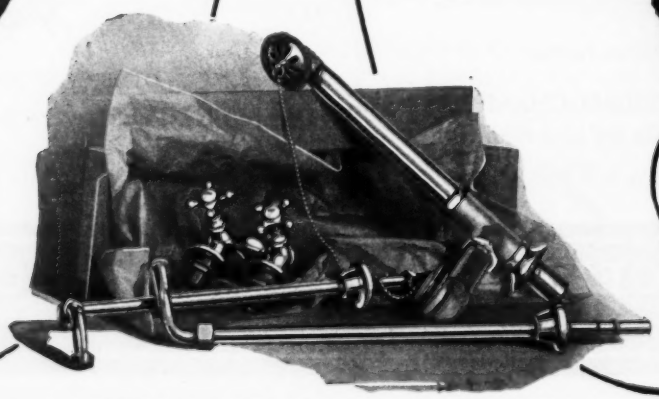
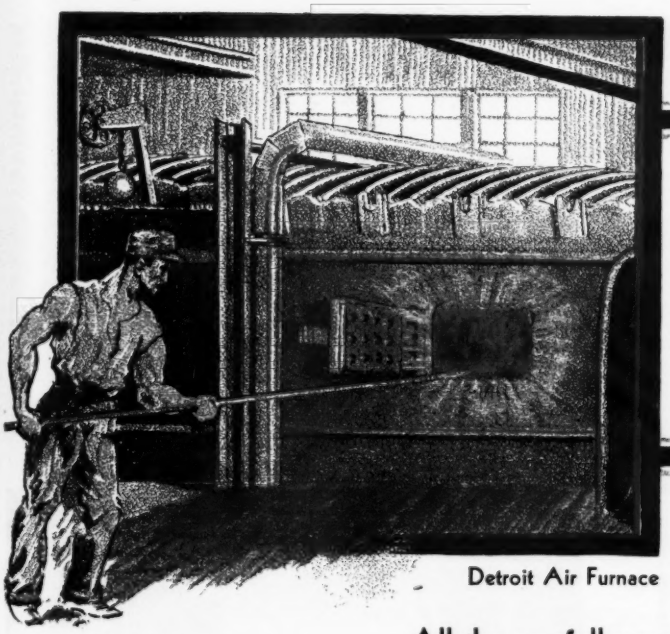


THE STANDARD OF QUALITY SINCE 1877



Detroit Air Furnace

As The Metal So The Fitting

All the carefully controlled heat treatment which adds the distinguishing quality to "Detroit" Malleable Fittings can be fully effective only when the original castings have just the right metallurgical composition.

It takes good metal to produce good fittings . . . metal such as only the *special air furnace* can produce. The sulphur content cannot be kept as low as 0.06% by any other means. The phosphorus cannot be held to 0.25% by any other method of melting! We do not know of any other method that will permit chemical and physical analysis before tapping in order to verify both chemical and physical properties of the metal.

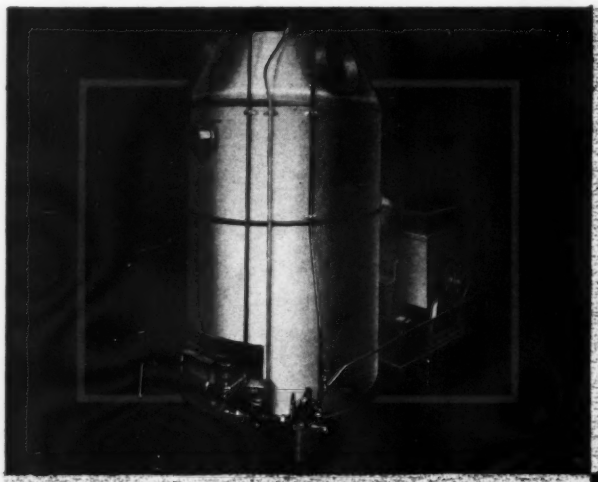
If you want malleable fittings that are really dependable, that handle easily and quickly, insist on *Detroit Air Furnace Malleable Fittings* from that tough, close-grained iron that can be twisted or bent without cracking a single thread.

Manufacturers of a full line of Brass Valves, Cocks, etc., for steam, water, gas and oil. *Distributed only through wholesalers.*

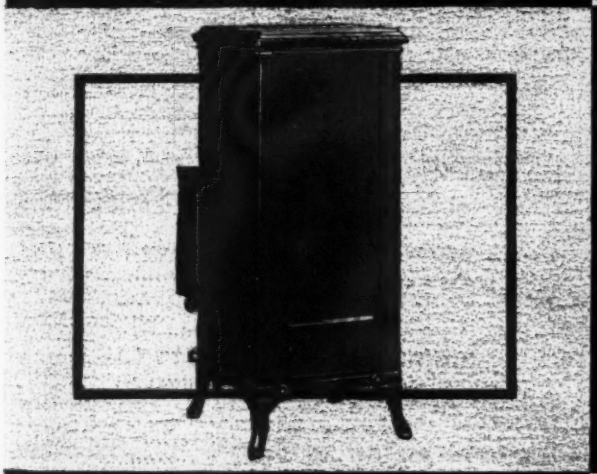
DETROIT BRASS AND MALLEABLE WORKS

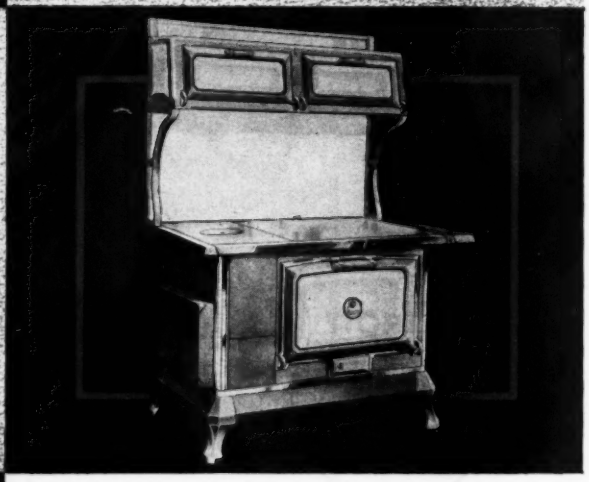
Detroit » » » Michigan

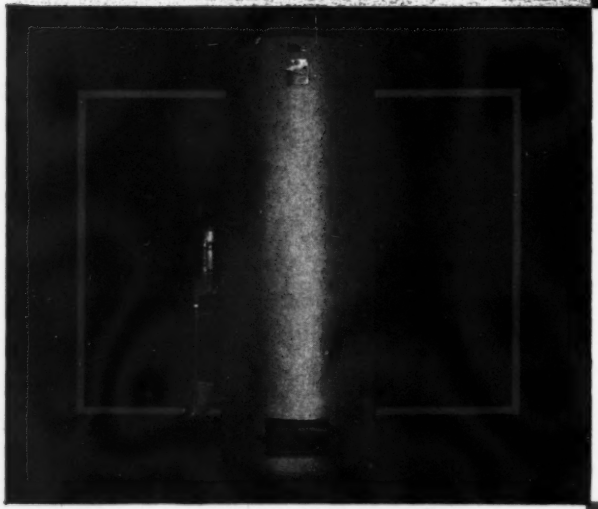
DETROIT FITTINGS



This complete line will put you in a profitable business...







The Piatt principle of safe, certain, satisfactory heat from oil has been proved in battleships, in homes, in offices, schools—all over the nation.

Now, this principle applied to ranges, cabinet heaters, furnaces, hot water heaters is bringing to dealers a proposition of profit that provides something to sell at any season of the year and in city or suburb.

The story is too big to tell here; the possibilities too great to cover. Send in the coupon for complete story of the Piatt proposition of profit. Now is the time to act and get ahead of the big demand.

See our exhibit—Chicago Show
April 7th to 12th—Booths 7 and 8

PIATT

OIL-BURNING APPLIANCES

Motor Wheel Corporation,
Heater Division, Dept. 101,
LANSING, MICHIGAN

Send me at once, full information and profit-building plan on the Piatt Appliances. I am not obligating myself but will study the details carefully.

Name-----
(Please print or typewrite)

Street-----

City----- *State*-----

My Business-----

A Chip of Steel *on* A Surface of Brass

THE last thread has been tapped, the pipe blown out, the valve made up and now the flow is turned on. A tiny chip of steel clinging to the bore of the pipe, is swept through the line with the first rush of the liquid. It is carried along until it catches in the aperture between the disc and the seat.

The valve is being closed, and as the disc comes down upon the seat, the chip of steel is caught fast between them. Will the composition disc absorb the chip of steel and protect the brass seat or will it force the chip into the softer brass and permanently mar the surface of the seat?

A good disc must be both hard and soft—hard enough to withstand the action of hot water and steam, yet soft enough to protect the smooth surface of the brass seat.

Ohio Brass Composition Discs are made to specifications which admit of no compromise with cost and thus are O-B Globe Valves built up to a standard rather than down to a price. They will give the service that is to be expected of high quality globe valves.

Specify O-B Valves and get "an extra profit in the make-up"

Ohio Brass Company
Mansfield, Ohio
1212V

Ohio Brass Composition Disc Valves

Ohio Brass No. 10 Line—Composition Disc Globe, Angle and Check Valves—is built for 150 pounds w. s. p. All parts are interchangeable with other standard pattern valves of this type. No. 15 Line Special is for 125 pounds w. s. p. No. 3 Line is a Low Pressure type of composition disc valve. Sizes range from one-eighth inch to three inches.

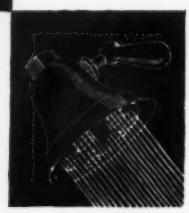
Ohio Brass Co.

NEW YORK PITTSBURGH PHILADELPHIA CHICAGO ATLANTA BOSTON CLEVELAND ST. LOUIS LOS ANGELES WM. P. HORN CO: SAN FRANCISCO SEATTLE

PORCELAIN INSULATORS
LINE MATERIALS
RAIL BONDS
CAR EQUIPMENT
MINING MATERIALS
VALVES

fine spray

medium spray



strong spray

K-3395—*New Self-Cleaning Shower Head*

K-2603-M—*Speakman Metaline Mixometer Shower* Mixometer with metal wall plate and metal handle. Straight-arm with metal escutcheon, elbow ball joint and screw-driver stop for regulating water pressure. Equipped with Self-Cleaning Anystream Shower head. Size, ½ inch.

All from the same shower head!

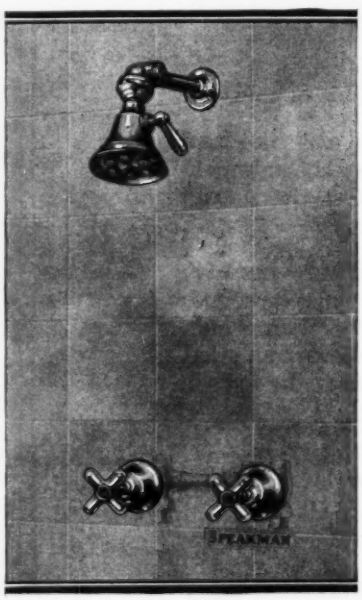
THE new Self-Cleaning, Anystream Speakman shower head is completely different from any other shower head made. It gives any kind of a stream you wish, merely by the turn of a lever. (See illustrations.) It flushes itself free from every bit of clogging scale or dirt with a half turn of this same lever. When the shower is turned off it does not drip, drip, drip.

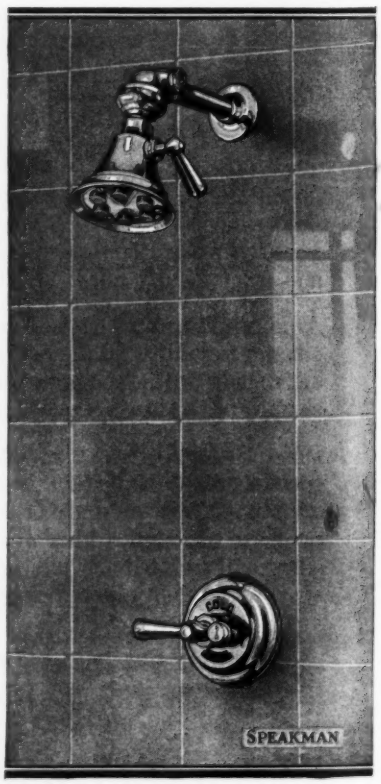
This new shower head will fit any Speakman shower, certainly. But it will also fit any other make of shower. This means it is ideal for both new installations and replacements.

Carefully and finely made. Threads clean-cut and accurately machined. Heavy with the heaviness of the strongly-made fixture which lasts for years. Metal where metal belongs. Tested at the factory under pressure.

And the finish is in Speakman chromium plate—heavy, brilliant, durable. Speakman Company, Wilmington, Delaware.

K-2636-M—*Speakman Metaline Heavywate Shower* Same as above except Speakman Hi-Seat valves in place of Mixometer. Hi-Seat valves are equipped with unions, renewable seats, metal escutcheons and metal handles with black enamel indexes. Size, ½ inch.



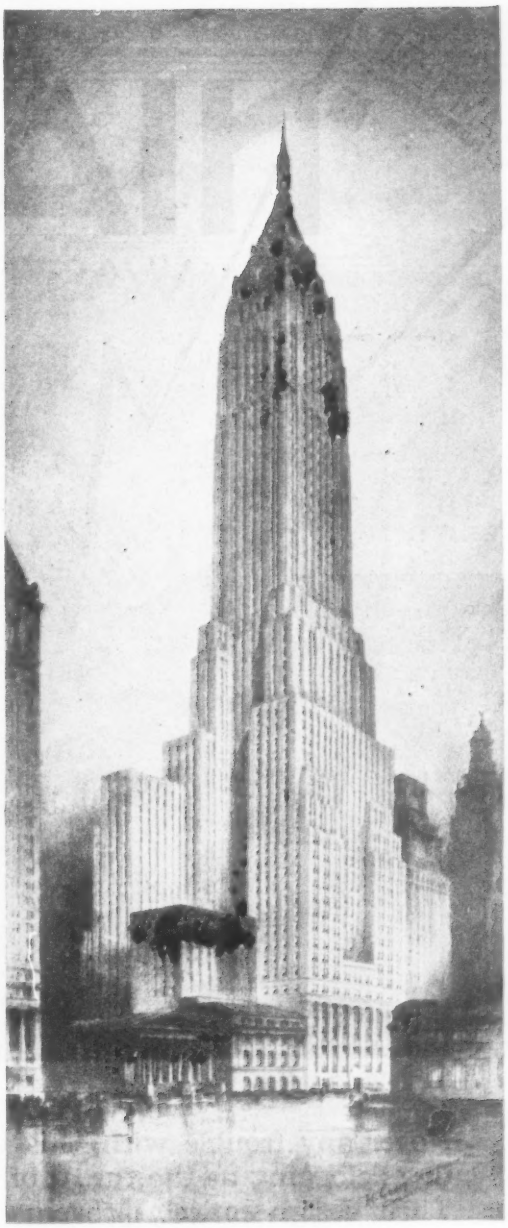


SPEAKMAN

SHOWERS & FIXTURES

This office building at 40 Wall St., New York City, is another Youngstown pipe installation.

Architect
H. CRAIG SEVERANCE
Builder
STARRETT BROS.
Plumbing Contractor
W. G. CORNELL CO.



GOOD FOR A LIFETIME!

YOU make no mistake in installing Youngstown steel pipe in the plumbing, heating or sprinkler systems of any building. It is pipe that will deliver years of trouble-free pipe service; that will outlast the building in which it is installed. The performance records of thousands of installations is the most convincing evidence of its lasting qualities in service.

But there are other features equally important to plumbing and heating contractors. These are workability and ease of installation which are outstanding features of Youngstown pipe. Its uniformity and its clean-cut threads eliminate lost motion on the job which means less installation expense.

If you are not already using Youngstown steel pipe, try it on your next job.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"

General Offices—YOUNGSTOWN, OHIO

DISTRICT SALES OFFICES

ATLANTA—Healey Bldg.
BOSTON—80 Federal St.
BUFFALO—Liberty Bank Bldg.
CHICAGO—Conway Bldg.
CINCINNATI—Union Trust Bldg.
CLEVELAND—Terminal Tower Bldg.
DALLAS—Magnolia Bldg.
DENVER—Continental Oil Bldg.
DETROIT—Fisher Bldg.
KANSAS CITY, MO.—Commerce Bldg.
MEMPHIS—P. O. Box 462
MINNEAPOLIS—Andrus Bldg.
NEW ORLEANS—Hibernia Bldg.
NEW YORK—30 Church St.
PHILADELPHIA—Franklin Trust Bldg.
PITTSBURGH—Oliver Bldg.
SAN FRANCISCO—55 New Montgomery St.
SEATTLE—Central Bldg.
ST. LOUIS—Shell Bldg., 13th and Locust Sts.
YOUNGSTOWN—Stambaugh Bldg.

LONDON REPRESENTATIVE—The Youngstown Steel Products Co., Dashwood House, Old Broad St., London, E. C. England

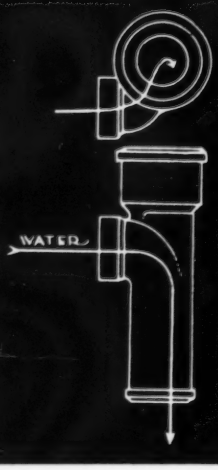
GALVANIZED SHEETS PROTECT ∵ ∵ SAVE WITH STEEL

SANI-TEED PLUMBING PRODUCTS

"NIAGARA"

WASTE AND VENT FITTINGS

PATENT PENDING



The waste cannot splash into the throat of the vent and deposit soap and grease to clog the vent.

Never any trouble with "Niagara" Fittings clogging at the throat of the vent. Their design entirely prevents this and consequently assures perfect venting at all times.

This is only one of the five big "Niagara" Features. The other four solve waste fitting problems equally as difficult. Write for information and new catalog showing many specimen layouts.

SANI-TEED PLUMBING PRODUCTS

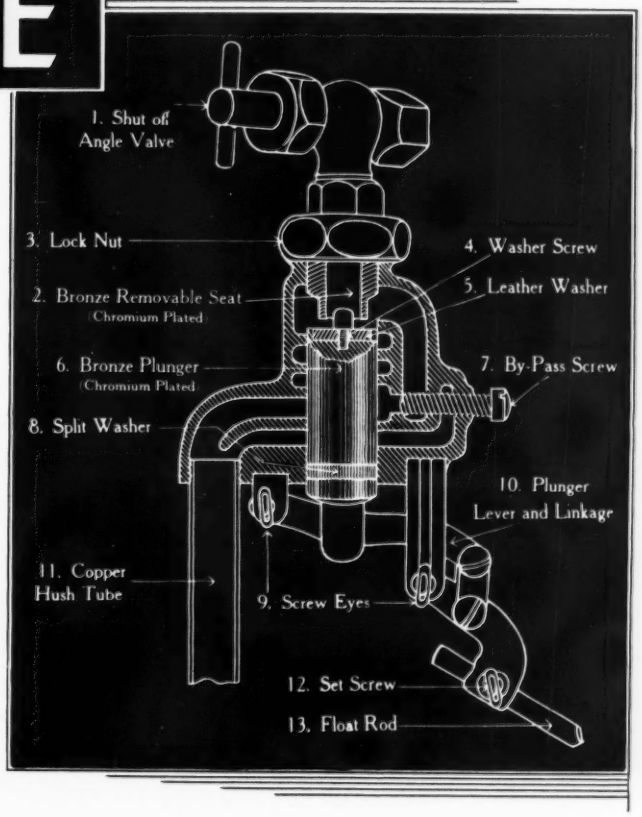
J. A. ZURN MFG. CO.
ERIE, PENNA.

Sales Offices in the following Cities:

Boston New York Philadelphia Pittsburgh
Toledo Chattanooga Chicago
Minneapolis Denver Dallas Los Angeles
Seattle San Juan, Porto Rico

QUIET and ENDURING

JUST FOR INSTANCE



Just for instance — consider the construction and operation of the Curtin ball cocks. Made of cast bronze — seats and plungers bronze ***chromium plated***—hush and refill tubes of seamless drawn copper.

Curtin ball cocks may be adjusted to any water pressure, to refill any tank silently and quickly whether the pressure is high or low. Merely adjust the by-pass regulator.

Ball cocks can be furnished also for bottom supply low down tanks, or adapted with elbow connection for old style high tanks.

Full specifications in Domestic Engineering Plumbing and Heating Catalog

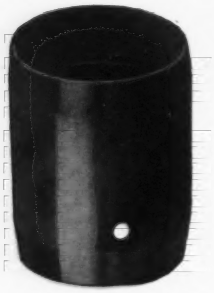
A. F. CURTIN VALVE COMPANY

Medford - - - Massachusetts

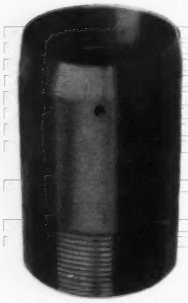
install CURTIN TANK NOISELESS FITTINGS

A connection made with the new MUELLER STREAMLINE FITTING to MUELLER COPPER WATER TUBE is actually much stronger than the tube itself

It is threadless and designed to make a conveniently soldered connection to Mueller Copper Water Tube for plumbing, heating and industrial uses.



Pat. Pending
Streamline Coupling Copper to Copper



Pat. Pending
Streamline Coupling Copper to Male I. P. S.

Pat. Pending
Streamline 90° Elbow Copper to Copper

Pat. Pending
Streamline 90° Elbow Copper to Male I. P. S.

Pat. Pending
Streamline Tee Copper to Copper to Copper

The pipe openings in the fittings are machined to close tolerances and the pipe, when inserted in the fitting, fits snugly.

The distance to which the pipe may be inserted in the fitting has been carefully determined and made positive by a shoulder in the fitting itself against which the pipe rests. This shoulder is the same thickness as the pipe wall, thus insuring a continuous, uninterrupted waterway that cuts flow resistance to a minimum.

On the outside of the fitting, drilling location spots are placed at convenient points which facilitate the drilling of the solder feed holes.

The drilling location spots are located immediately above the solder feed channel [see illustration] so that when the solder is fed in, after heating with a blow torch, it is carried around and evenly distributed in all directions by capillary attraction. The tube is thus uniformly soldered to the fitting.

Plumber making connection with Mueller Streamline fitting to Mueller Copper Water Tube. Note the neat, compact, streamline appearance of the finished job.

Sectional view of the finished job

The tapered ends of the fitting which naturally produce a thin or feather edge, hasten cooling and act as a solder gate.

A Mueller Copper Water Tube and Streamline Fitting Installation is easier to sell, makes a booster of your customer and adds to your reputation as a skilled mechanic.

It is now possible with the new Mueller Streamline fitting to make installations of copper pipe in the larger sizes.

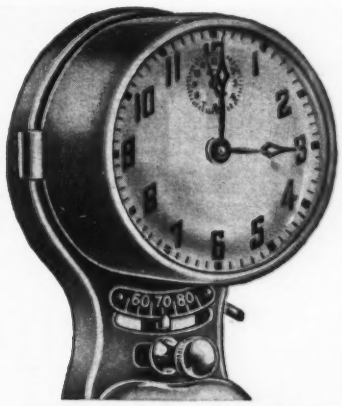
Consult Your Nearest Jobber or Write Us Direct for Complete Information

Mueller Brass Co.

Port Huron, Mich.

Three Generations of Brass Making

This CLOCK and This PRICE



$35.95

PLUS INSTALLATION AND TRANSFORMER OR BATTERIES

drive regulator sales to new peak

Sales! Sales! And more sales! They prove this regulator a tremendous success.

People who have balked at buying in the past are attracted by the clock and won by the sensational low price.

In stirring up customer enthusiasm, in making quick, clean sales, in producing man-sized profits for you, the new Jewell Junior *clock equipped* Temperature Regulator is a brilliant, smashing success. And no wonder! For back of this recent addition to the Jewell line are the massed resources of Minneapolis-Honeywell. The engineers who have pioneered every step in the progress of automatic temperature control have given the Jewell Junior many features found only in much higher priced regulators . . . clock control . . . trouble-free low voltage operation . . . unchallenged reliability . . . easy installation.

Priced complete with all fittings to install, over your counter only $35.95. (Many of your customers have wanted to install it themselves, saving the labor cost.) If they want you to install it, you make another profit on the work.

In a few short weeks this dependable clock equipped, low priced regulator has passed the supreme test. It sells! Make it sell for you. Write or wire for complete information.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
EXECUTIVE OFFICES: 2801 Fourth Avenue So., Minneapolis
FACTORIES: Minneapolis, Minn. and Wabash, Ind.

Now the Jewell Line is COMPLETE

Jewell Junior
TEMPERATURE REGULATOR

GOULDS PUMPS

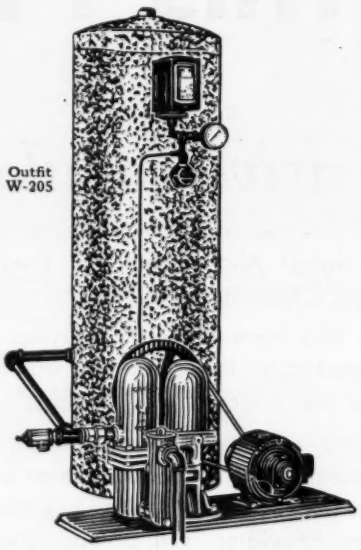
A Complete Line Means a Good Profit!

HANDLING Goulds Ever-Oiled Water Systems means good business and a good profit for you. The line is complete—in it is a water system perfectly suited to any home water need.

Either gasoline-engine or electric-motor driven, these systems operate with the minimum attention. The pumps are equipped with ball bearings which are permanently sealed in grease. They never need oiling. And the pumps are so well designed and so carefully built that they are guaranteed for two years against trouble or defects of any kind.

Prices range from $75 to $135. Take advantage of the excellent opportunity for profit in handling the Goulds Line.

Goulds Pumps, Inc.
Seneca Falls, N. Y.



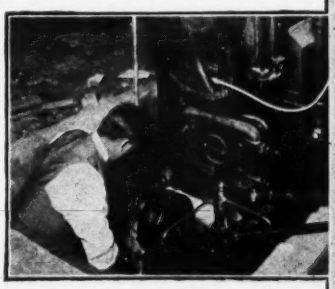
EVER-OILED OUTFIT W-205

Complete pressure tank system. Supplied with pressure switch and relief valve and with 42-gallon galvanized-iron tank, connecting pipe, fittings and automatic air-volume control. It has a capacity of 210 gallons an hour and costs $109 complete. It is driven by ¼-h. p. electric motor and is fully automatic in operation.

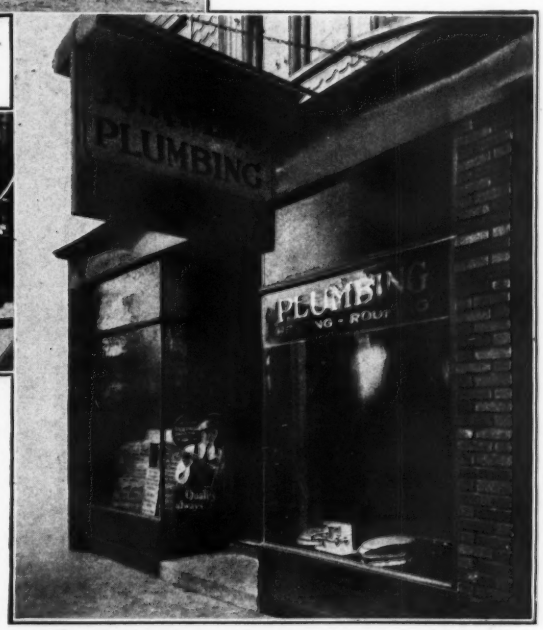
GOULDS
EVER-OILED
WATER SYSTEMS

Six of the twelve automobiles that make up the service fleet of the Kaveny Brothers.

The plumbing shop of J. J. Kaveny, Inc., Montclair, N. J., operated by the four Kaveny Brothers, plumbing and heating contractors and specialists in oil burner installations.



A typical Kaveny Brothers' oil burner installation showing use of Anaconda Deoxidized Copper Tubes for suction and return lines.



J. Gordon Kaveny says:

"When we include ANACONDA in our estimates, 9 times in 10 we get the Contract."

THE success of the firm of J. J. Kaveny, Inc., is an unqualified endorsement of the business-building value of exclusive use of quality material. J. Gordon Kaveny, Manager, says:

"The growing use of brass pipe is just common sense on the part of building owners. For our part, we find that a combination of quality material and excellent workmanship is easier to sell—one is not much good without the other. We use nothing but Anaconda, and business is good because the Anaconda people are telling the public at large the same story we drive home to our customers—that Anaconda Brass Pipe always pays in the end."

Seven years ago this progressive company took on a line of oil burners. Last year they made 239 installations, in all of which Anaconda Deoxidized Copper Tubes were used.

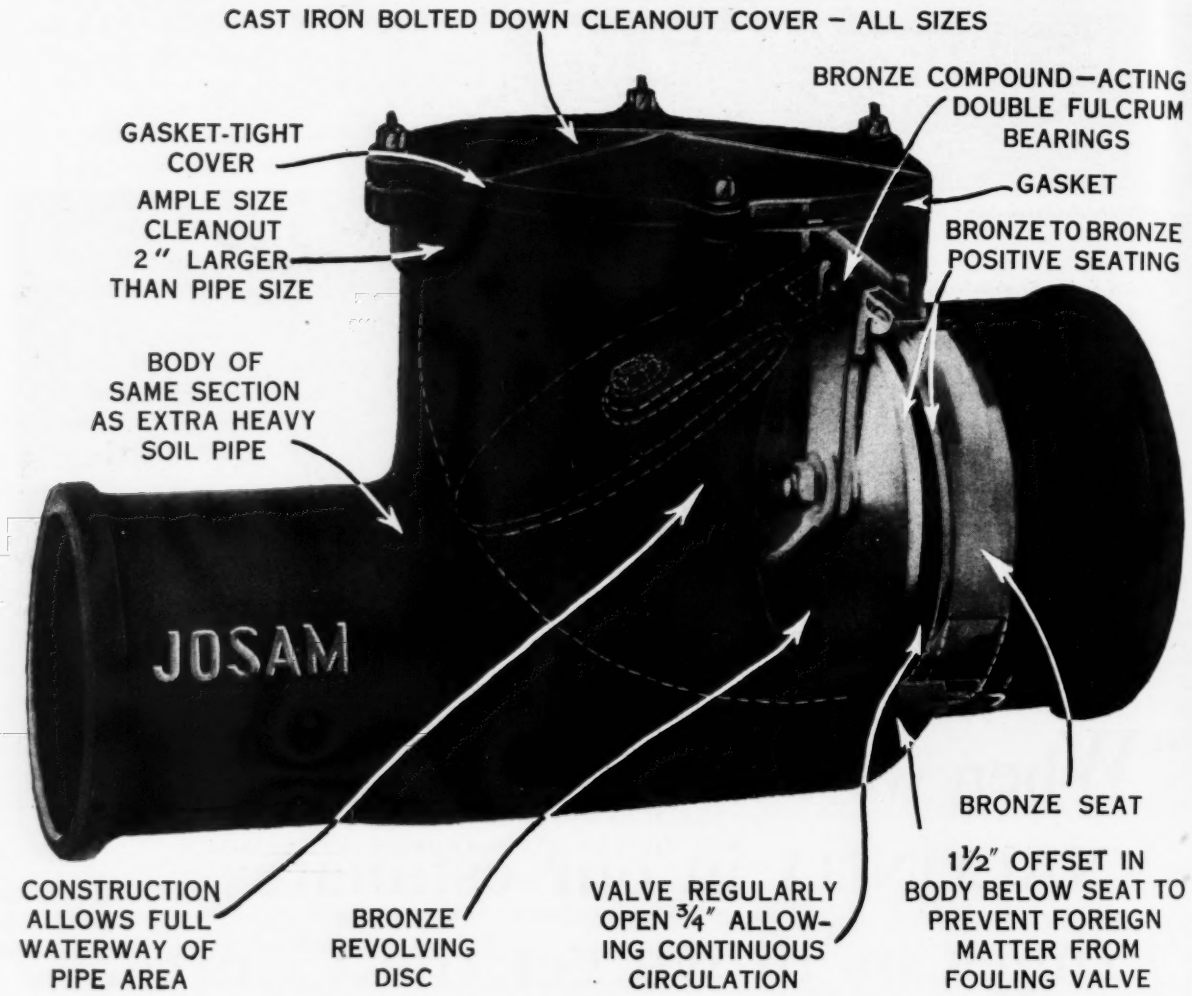
J. J. Kaveny, who directs this division, tells why:

"We install hundreds of oil burners every year, and because of our experience in this field, it is only natural that we have standardized on Anaconda Deoxidized Copper Tubes for suction and return lines. They eliminate vibration troubles and save labor. Since we have used this material the number of our service calls has been greatly reduced."

The experience of this company, like many others, shows that it pays to specialize on quality materials. The technical knowledge and skill accumulated by The American Brass Company in more than 100 years' experience in producing copper and its alloys is your assurance of unvarying quality in all products bearing the Anaconda trade-mark. The American Brass Company, General Offices, Waterbury, Connecticut.

ANACONDA
from mine to consumer

ANACONDA BRASS PIPE


CAST IRON BOLTED DOWN CLEANOUT COVER – ALL SIZES
BRONZE COMPOUND–ACTING DOUBLE FULCRUM BEARINGS
GASKET-TIGHT COVER
GASKET
AMPLE SIZE CLEANOUT 2" LARGER THAN PIPE SIZE
BRONZE TO BRONZE POSITIVE SEATING
BODY OF SAME SECTION AS EXTRA HEAVY SOIL PIPE
JOSAM
BRONZE SEAT
1½" OFFSET IN BODY BELOW SEAT TO PREVENT FOREIGN MATTER FROM FOULING VALVE
CONSTRUCTION ALLOWS FULL WATERWAY OF PIPE AREA
BRONZE REVOLVING DISC
VALVE REGULARLY OPEN ¾" ALLOWING CONTINUOUS CIRCULATION

Josam Open Seat Back-Water Sewer Valve

POSITIVE ACTION certain . . . responds to slightest pressure . . . easily cleaned . . . all sizes from two to thirty inches with bolted cover as shown; four, five, six and eight inch sizes in threaded brass cleanout model.

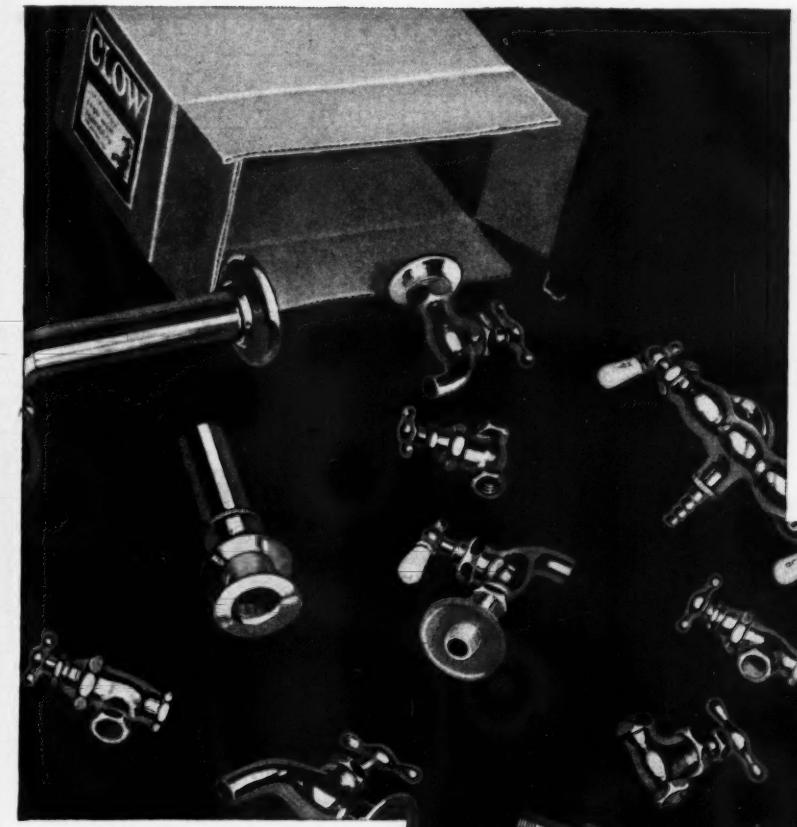
THE VALVE THAT WILL NOT FOUL

A copy of Catalog "G" and of the Josam Roughing-in Dimensions Booklet belong on every plumber's desk. Have you yours? Both will be sent upon request.

Josam TRADE MARK REG. PRODUCTS

JOSAM MFG. CO.
Factory: Michigan City, Indiana
General Office:
4904 Euclid Building, Cleveland, Ohio
BRANCHES IN PRINCIPAL CITIES
Josam Products are sold by all Plumbing & Heating Supply Jobbers

THERE ARE NO SUBSTITUTES FOR JOSAM PRODUCTS



NEW BRASS PRICES!

BUY NOW
FOR YOUR STOCK

Now, increased production permits prices on Clow Brass Goods to be reduced—making them by far the biggest brass bargain that ever hit the market.

No reduction in the famous Clow quality—the same good, red metal brass, phosphor bronze springs, extra heavy nickel or chromium plating. And items come to you packed in handy labeled cartons for convenient storage.

Clip and send the coupon today, for the new prices on Clow Brass Goods. Merchandise a quality line of plumbers' brass.

JAMES B. CLOW & SONS
201-299 N. Talman Avenue, Chicago, Ill.
Send me, without obligation, the new low prices on the same good, reliable Clow Brass Goods.

Name.....

Address.....

Sales Offices in principal cities

CLOW

PREFERRED FOR EXACTING PLUMBING SINCE 1878

Make EXTRA PROFITS

on Unit Heaters
with these
EFFICIENT CONTROLS

The No. 56R Aquaswitch—an exclusive Time-O-Stat control for Unit Heaters.

The No. 64 Thermoswitch—a dependable, high capacity, room temperature regulator, ideal for industrial use.

TIME-O-STAT AUTOMATIC CONTROLS

Whenever you install a Unit Heater, equip it with Time-O-Stat automatic controls. They increase Unit Heater efficiency and *bring you extra profits!*

Unit Heaters equipped with the 56R Aquaswitch build up *quick heat*, never blow cold air, and remain idle at night and over week ends, saving needless expensive operation and wear and tear. Even though the room thermostat calls for heat, the 56R Aquaswitch does not allow the fan to operate unless the coil has reached a predetermined temperature.

Combined with the No. 64 Thermoswitch it provides *complete automatic control* — assures efficient operation of all types of Unit Heaters.

Unit Heater controls are an important part of Time-O-Stat's famous line of automatic controls . . . All have been perfected in Time-O-Stat's research laboratories. They form the most dependable line of automatic controls for the heating industry . . . For full information on these products, or on any problems of automatic control — write or wire us today!

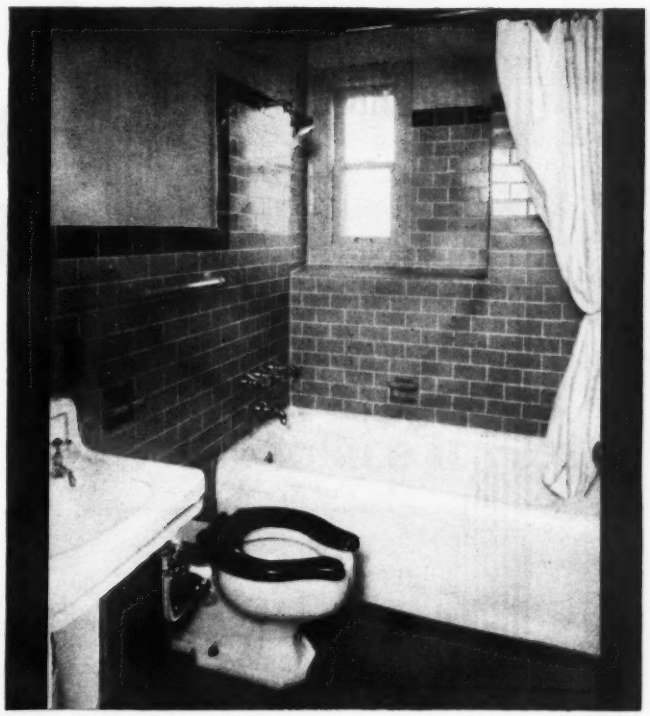
TIME-O-STAT CONTROLS COMPANY
ELKHART, INDIANA

Branch Offices and Exclusive Distributors in All Principal Cities of the United States.
Canadian Distributors: Toronto and Montreal.

Manufacturers of AUTOMATIC CONTROLS *for Oil Burners — Gas Burners — Coal Burners — Electric Refrigerators — Furnace Fans — Mechanical Stokers — Industrial Ovens — Ice Machines — Unit Heaters . . . . . also of Sign Flashers — Mercury Switches — Electric Heaters — Corrugated Metal Bellows.*

AT CLIFF TOWERS SHOW-PLACE OF THE NEW SOUTHWEST

•COLOR MEANS KOHLER



Typical guest bath at Cliff Towers. Equipped with Kohler WINTHROP *lavatory of vitreous china, Kohler* VICEROY *built-in tub, and Kohler* PENRYN *syphon jet closet.*

DALLAS has a new apartment hotel, one of the finest and most beautifully appointed anywhere . . . developed inside and out in the Italian style . . . with all the warmth and color of an old-world villa. . . . The charm of the soft rich tones in marble, stucco, tiling and furnishings is carried on by Kohler color ware in the bathrooms. Hundreds of Kohler units were used—built-in tubs, vitreous china lavatories and closets, and white enameled sinks. The reasons for selecting Kohler fixtures are well expressed by Mr. Charles A. Mangold, Vice-president and General Manager:

"When we began the building of Cliff Towers we decided to procure the best products to be found in the nation.

"In plumbing, we naturally turned to Kohler of Kohler. Others may be good, but Kohler qualities have set the pace for a number of years. We were confident that Kohler fixtures would render long service.

"Then there was the all-important question of beauty in the new type bathrooms. We decided upon colored fixtures, and the ready response from all who visit Cliff Towers, particularly from those who live there, has convinced us that our choice is a very wise one.

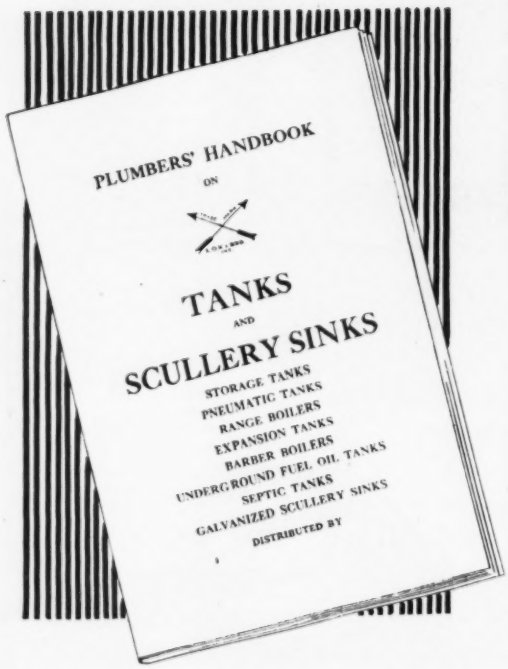
"We were influenced by the fact that we have used Kohler products in the past. We place our faith in the future upon our own most satisfactory experience."

High standards in plumbing are evidence of high ideals of service in other respects. Logically, Kohler fixtures are favored where hotel or home bathrooms must pass the most exacting requirements, both of beauty and efficiency. . . . Kohler Co. *Founded* 1873. Kohler, Wis.—*Shipping Point,* Sheboygan, Wis.—*Branches in principal cities.* . . . Look for the Kohler trade-mark on each fixture.

Cliff Towers, new apartment hotel in the Oak Cliff section of Dallas, Texas. Architects, Albert S. Hecht, Chicago, and Robert Williams, Dallas. Plumbing jobbers, Southland Supply Co. of Dallas. Plumbing contractors, C. Wallace Plumbing Co. of Dallas.

KOHLER OF KOHLER

PLUMBING FIXTURES



It's Ready!

Koven's NEW Plumbers' Handbook

A Real Help in Specifying Your Tank Requirements

Mr. Plumber: You'll want this handy booklet for quick, ready reference. It illustrates and describes *completely* the entire KOVEN line of tanks, giving full specifications as to size, capacity, tappings, etc.

Needless to say, everything listed is new . . . *the latest* in this line of equipment for 1930.

Ask your jobber for one of these booklets—or if he can't supply you, fill out and mail the coupon below, and your copy will be forwarded promptly. There is no cost, or obligation, of course.

L. O. Koven & Bro., Inc.

154 Ogden Ave. **Jersey City, N. J.**

To the Jobber:

We will gladly furnish you (gratis) any reasonable quantity of these handy booklets for distribution among your customers. Write us your requirements NOW.

L. O. KOVEN & Brother, Inc.,
154 Ogden Ave., Jersey City, N. J.

Gentlemen: Please send me, without cost, one of your Plumbers' Handbooks, as advertised.

Name.....

Address.....

.....

My Jobber is.....

Address.....

GUARANTEED

This guarantee label is put on the housing of every RIDGID Wrench.

UNCONDITIONAL GUARANTEE

If this Housing ever Breaks or Distorts we will replace it Free

THE RIDGE TOOL CO.
ELYRIA, O.

YOU can't break or distort the housing of a RIDGID Wrench whether it's 6-in. or 60-in. size.

We guarantee this fact—in plain terms, unconditionally. We say so on every wrench.

Several million RIDGID'S in use are proof enough. No more expense or bother with broken housings for RIDGID owners.

And these features: powerful I-beam handle with hang-up hole; adjusting nut that rides free in open housing, even in 60-in. size; hook jaw, with pipe scale, that you won't bend or break, with heel jaw of special steel—instant grip and instant let-go, no slipping, and you can't lock it on a pipe. If you've never tried a RIDGID, you have a new experience coming.

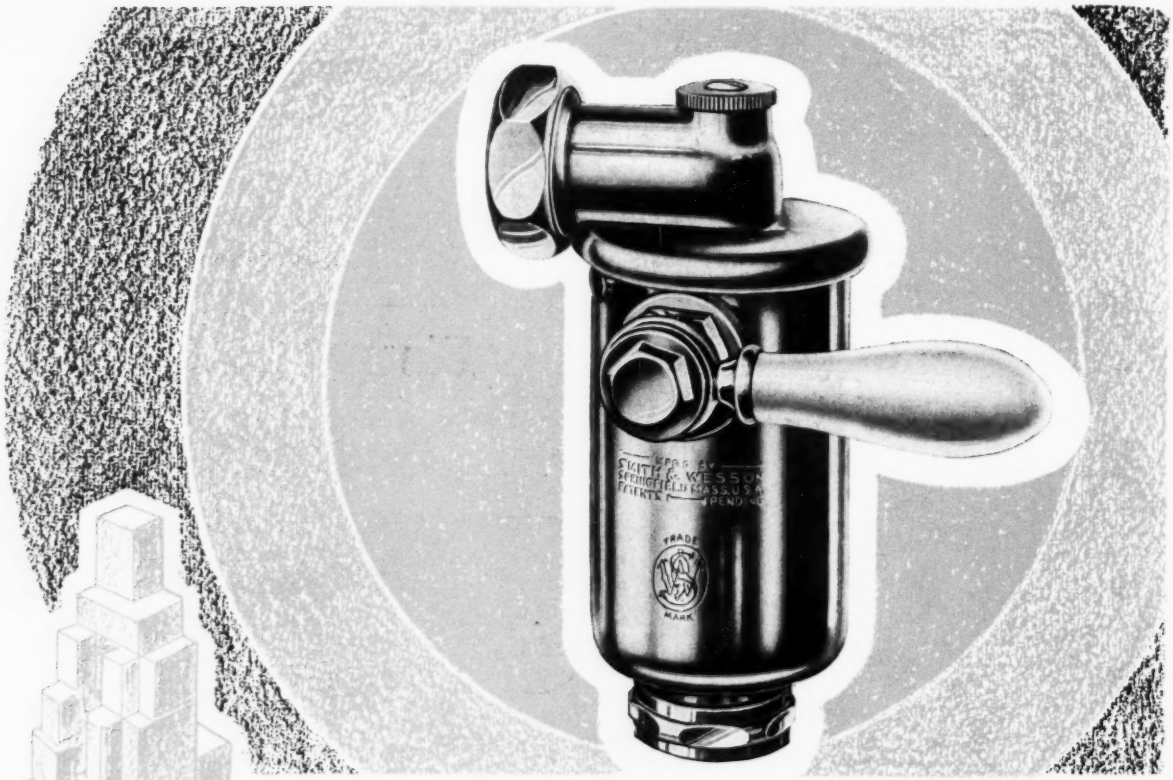
Ask your Jobber—and ask him also about RIDGID Pipe Cutters with the new "blue" blade, vises with new jaws that won't mar nickel pipe, and the Super-Six Wrench with its compound leverage.

THE RIDGE TOOL CO., Elyria, Ohio

RIDGID

PIPE WRENCHES
VISES AND PIPE
CUTTERS

WRENCHES



The MODERN FEATURES
of the Smith & Wesson Flush Valve Recommend it for the Modern Building

The design of this valve will interest promoters of such construction as large commercial buildings, hotels, schools, institutions, and factories.

When selecting flush valves, the primary interests of these men are long life and *attention-free* operation. These qualities are assured by the all metal construction and other superior features of Smith & Wesson Flush Valves.

You can recommend these valves for installation with full assurance that *the need for organized servicing is completely eliminated.*

For Further Information Write

SMITH & WESSON

FLUSH VALVE DIVISION

SPRINGFIELD, MASSACHUSETTS

WHITE
A Seamless SPRAYED WHITE SEAT

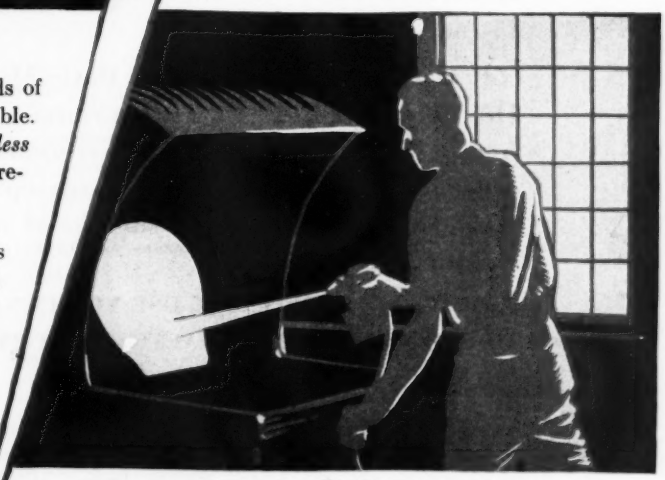
Twenty-five years of constantly improved methods of production have made this superior seat possible. Now you can offer your customers a *seamless* toilet seat that is absolutely sanitary—and therefore more easily sold.

Every "STASCO" Empire White Seat has a smooth, glistening white surface that is entirely *seamless*. There are no cracks, laps or joints to loosen and collect germs. A thick coating of sprayed pyralin resists moisture. Each day the seat may be wiped clean with a damp cloth without impairing its sparkling whiteness or shortening its long life.

Because the "STASCO" Empire White Sprayed Seat is seamless and more sanitary; lasts longer and is better looking, your customers will demand it. Profits are very worth while.

Your jobber will supply you

STANDARD TANK & SEAT CO., Camden, N. J.



"STASCO" No. 358
Empire White

A serviceable seat sprayed with the "Empire White" finish and guaranteed not to chip, crack nor discolor. Note the sturdy, full nickel-plated hinges.

"STASCO" No. 360
Empire White

Designed to reduce the visibility of the nickeled hinges, presenting only the clean "Empire White" finish.

See these MODERN TRUCKS

in the Great Display of GENERAL MOTORS TRUCKS *for* 1930

THERE'S a mighty important profit angle for you in seeing the representative models in the great General Motors Truck line for 1930, which are now being exhibited throughout the United States.

You'll see representative models for your work in the most complete line of modern trucks the industry has ever seen. It starts in the ½-ton range and goes up—without a gap—to the 15-ton tractor range.

It is a line that includes 11 Basic Models . . . 33 chassis . . . 118 different types. Offering a range of choice so wide that—*from a practical standpoint—it amounts to trucks made to order for your work.* At prices which plainly pass on to truck-users the big benefits and savings of volume production and volume purchasing.

THE MOST PROFITABLE USE YOU CAN MAKE OF YOUR TIME IS TO SEE AND GET FULL FACTS ABOUT THESE MODERN TRUCKS!

* * *

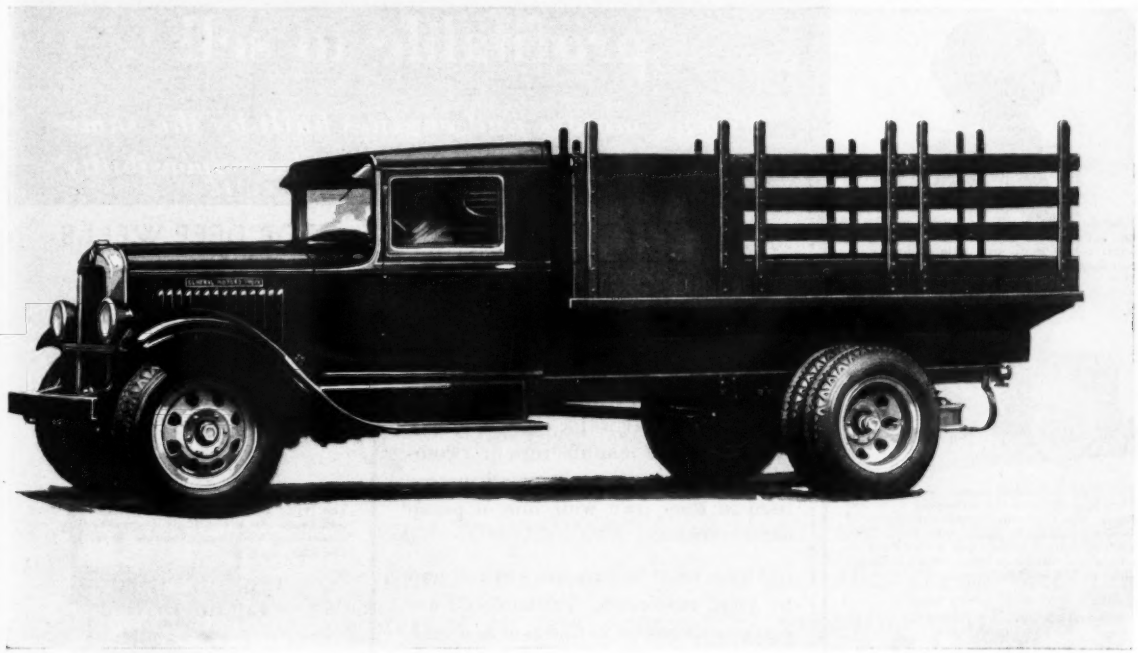
TIME PAYMENTS, on any General Motors Truck, are financed at lowest rates available anywhere, through our own Yellow Manufacturing Acceptance Corp.

GENERAL MOTORS TRUCK CO., Pontiac, Michigan (*Subsidiary of* Yellow Truck & Coach Mfg. Company) GENERAL MOTORS TRUCKS, YELLOW CABS, COACHES.

Factory Branches, Distributors, Dealers—in 1500 principal cities and towns.

GENERAL

for PLUMBERS' HAULAGE



$1895

Model T-42B

2½ Ton Range

Price, Chassis Only, F. O. B. Pontiac, Michigan

This powerful, rugged unit comes in four wheelbases—141 in., 152 in., 164 in. and 181 in.—and 12 different tire combinations. Chassis prices vary according to wheelbase and tire equipment. Straight Rating—14,000 lbs.—total gross weight including load.

WHEREVER there are loads in the 2½-ton range to be moved speedily, under tough operating conditions, the Model T-42 is *the* truck for the job.

Always rugged and dependable, it is now even stronger, more powerful and finer looking than ever before.

The famous 76-horse power engine enables it to do more work day in, day out, year in and year out than any other truck in its capacity range, regardless of price. With less operating and maintenance expense. As actual experiences of owners plainly attest.

SEE AND INVESTIGATE THIS GREAT PERFORMER — NOW!

MOTORS TRUCKS

Dealers say this exclusive advantage makes F-M Water Systems profitable to sell

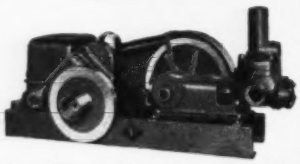
Pumps, motors and engines built by the same manufacturer means one undivided responsibility

FOR SHALLOW WELLS

210 Gallon Electric

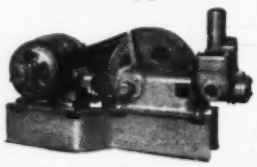
Electric shallow well water system—210 or 420 gallons per hour. Low price—compact—attractive in its delft blue enclosure. *A real leader in a line of leaders.*

Engine Typhoon



The F-M self-oiling engine connected by Flex-Mor drive to the self-oiling Typhoon pump. The Typhoon pump is a shallow well *duplex* pump made in sizes 600, 1000, 1500, 2500 and 5000 gallons per hour. Built to withstand 100 lbs. pressure which is equivalent to 231 feet of elevation.

Motor Typhoon



The motor driven Typhoon pump. These assemblies are shipped complete (as shown) on a substantial base carefully lined up. All it is necessary to do is to connect them to the piping.

Belted-Typhoon

Pumps without the driver can be furnished where the customer already has his own engine or motor. Belt tightening idlers, assembled on the pump, can be furnished if desired.

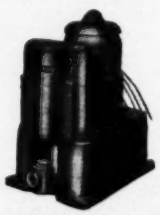
ONLY in the Fairbanks-Morse line of Water Systems can you get the advantage of centralized responsibility—pumps and complete pump and power units to meet every need, built by one world-known manufacturer. Fairbanks-Morse is the *only* water system builder engaged in the manufacture of a complete line of both engines and motors used in their own wide line of pump combinations.

Think what this means—to you and to your customers. Fairbanks-Morse equipment is *built* to function as a unit. Design is more compact. Buyer's confidence in the entire unit is created by the well known reputation of the pioneer manufacturer. Responsibility is *undivided*. Parts can be obtained from a single source. Engine pumps are powered with the famous F-M "Z" Engine—known for dependability the country over.

With the Fairbanks-Morse franchise you establish yourself as water supply headquarters in your territory. You can quote *complete* on any pump job. The illustrations show some of the F-M Units that are making substantial profits for dealers. Write to us on your letterhead for complete information about the Fairbanks-Morse franchise, now! There's no obligation. Address Dept. I-8.

FOR DEEP WELLS

Direct Connected

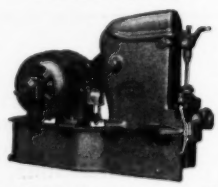


The type "DC" electric driven self-oiling deep well head. An exceedingly compact, fully enclosed deep well head available in ¼, ½, ¾, 2 and 3 hp. sizes.

Type "B" Head—Engine Driven

Engine driven self-oiling Type "B" deep well head. The drive is of the V-belt principle known as the Flex-Mor—Fairbanks, Morse & Co.'s own drive. The illustration shows the 1½ hp. engine connected to the 6-inch stroke head.

Type "B" Head—Motor Driven



The Type "B" head, motor driven. This head is made in 6-inch, 9-inch and 12-inch strokes in horse power capacities of from 1 hp. to 5 hp.

Belted Heads

The belted type "B" head for use where the customer already has his driving power. The belted Type "B" head is regularly furnished with the idler as shown.

FAIRBANKS, MORSE & CO.

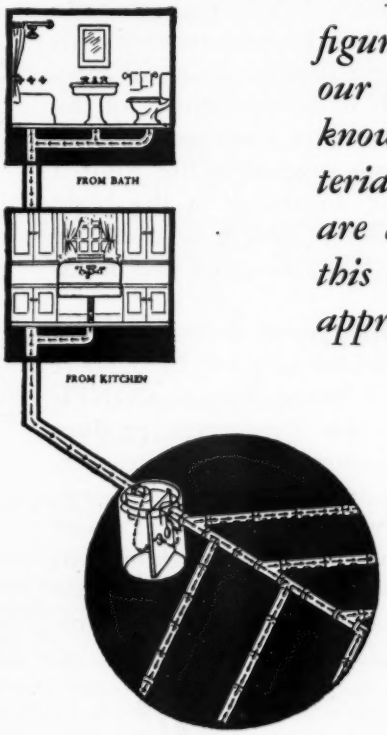
MANUFACTURERS, CHICAGO, U. S. A.

Branches with Service Stations *Covering Every State in the Union*

Bradstreet Rates this Plumbing Dealer

at $20,000

This Successful Dealer Says:



"The past year we have been forced to figure several jobs with the cheap tanks which our competitors have been using, and we know it is not right to put this cheap material in the ground. Anything that you are able to do to help us get away from this cut-throat competition we surely will appreciate."

IF cut-price competition has ever caused you to lose business or forced you to sell inferior equipment you will be interested in the new plan developed by San-Equip Inc. This plan enables reputable dealers to sell the better equipment they prefer to sell and make the profit to which they are entitled. Hundreds of inquiries have already reached our offices from dealers all over America. *Send the coupon to-day.*

SAN-EQUIP INC.
(*formerly Chemical Toilet Corp.*)
923 E. Brighton Ave., Syracuse, N. Y.

San-Equip
SEWAGE DISPOSAL SYSTEMS

San-Equip Inc.
923 E. Brighton Ave.
Syracuse, N. Y.

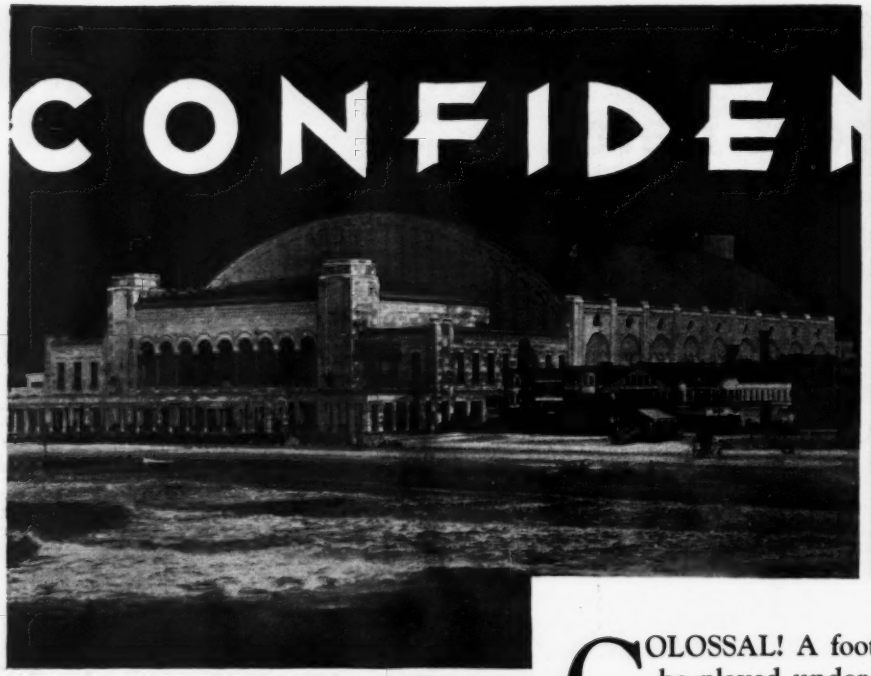
Please send me the details of your plan for selling complete San-Equip Sewage Disposal Systems at a profit.

Name.....

Street and Number.....

City.....State.....

CONFIDENCE



CONVENTION HALL
Atlantic City, N. J.

Architect:
Cook & Blount

Engineers:
Lockwood, Greene & Co., Inc.

Plumbing Contractor:
W. G. Cornell

COLOSSAL! A football game to be played under its roof with nearly twenty thousand spectators—such is the immensity of the new Atlantic City Convention Hall. Its size alone suggests a life limited only by the durability of the basic structure. Here, indeed, is a test for the piping. Will it outlast the building?

This challenge of time has been taken up confidently by Bridgeport "Plumrite" Brass Pipe. CONFIDENCE in this Bridgeport product has been cumulative, increasing, broadening during nearly half a century of service records. What more can be asked of any pipe than consistently trouble-free service? What else could earn for Bridgeport "Plumrite" this CONFIDENCE?

All "Bridgeport" Pipe

Is "Plumrite"

To identify mixtures, to protect you, the trade-mark appears every 9 inches on Bridgeport "Plumrite" Pipe.

Bridgeport Plumrite Standard

The standard brass pipe for the average installation, for both hot and cold water lines. The mixture is Muntz metal, 60% copper and 40% zinc.

Bridgeport Plumrite 67%

Bridgeport "Plumrite" 67% contains 67% copper and 33% zinc. In general use Bridgeport "Plumrite" Standard offers corrosion-resisting qualities fully equal to those of Bridgeport "Plumrite" 67%.

Bridgeport Plumrite 85%

This mixture of 85% copper and 15% zinc is recommended for very severe corrosive conditions.

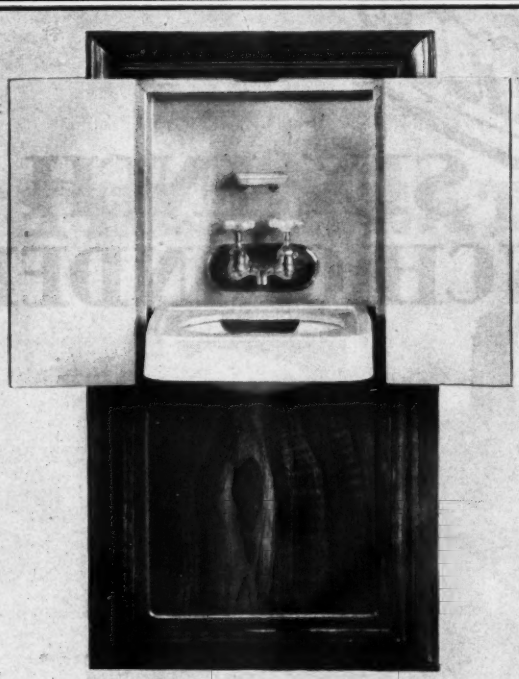
Bridgeport Plumrite Copper

This pipe is pure copper, showing an analysis of 99.9%. Where conditions demand a pure copper pipe, Bridgeport "Plumrite" Copper is recommended.

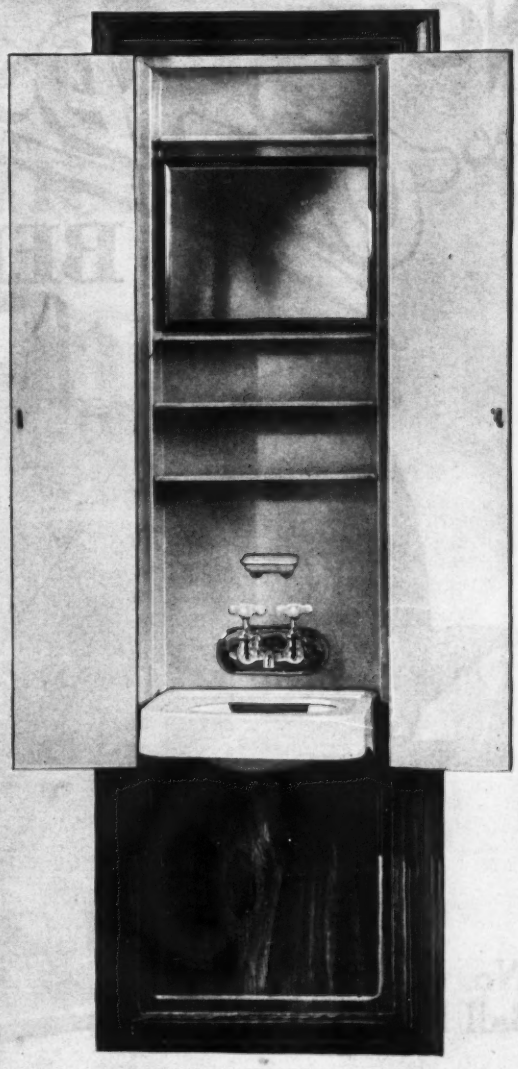
And Bridgeport "Plumrite" Copper Water Tube. Pure copper tubing, flexible for bending, yet hard and strong. In ⅜" to 2". Write for detailed information on this time and money saver.

BRIDGEPORT PLUMRITE BRASS PIPE

BRIDGEPORT BRASS COMPANY *Manufacturers* - General Offices, BRIDGEPORT, CONN



MURPHY CONCEALED LAVATORY
MODEL "A" WITH DOORS OPEN



MURPHY CONCEALED LAVATORY
MODEL "B" WITH DOORS OPEN

The MURPHY *Concealed Lavatory*

is sold only through the

Plumbing Supply Trade

The Murphy Concealed Lavatory brings washroom conveniences to every home, apartment, hotel and office building at very low cost and without the need for floor space. It fastens to the wall studs and extends only 3½ inches from the wall. Installation is very simple and inexpensive. Standard pipes and fittings are used. The bowl tilts up. This action also empties the water without splashing . . . The standard exterior finish of the steel cabinet is grained mahogany enamel. Also furnished in baked priming coat so that any color finish can be used to harmonize with room decorations. Interior is porcelain enamel. The Murphy Concealed Lavatory is practical, sanitary and foolproof. Nothing to get out of order . . . Be sure to have a sample Murphy Concealed Lavatory in your store. You will get volume sales on it with a good, clean profit on each unit. It is sold only through established plumbing supply dealers. Write now for complete information. Murphy Door Bed Company, Plumbing Fixture Division, 923 S. Keeler Ave., Chicago, Ill.

MURPHY
Concealed Lavatories

New "Van Dorn" SIX-INCH BENCH GRINDER

No. G-200 (Ball Bearing)

$35.00

A rugged, efficient utility bench grinder with power and long life built in by Van Dorn. Ideal for tool dressing, sharpening hand tools and light grinding of all kinds. Convenient handle makes this grinder easily portable and rubber pads on base eliminate necessity of bolting grinder to bench for light work. Priced within reach of even the smallest shop.

SPECIFICATIONS

MOTOR—Completely enclosed, split phase type with starting current to meet latest central station requirements. Operates from lighting circuit.

BEARINGS—Shaft is mounted on ball bearings with dust-proof housings.

WHEEL GUARDS—Open-end Guards, with openings adjustable for grinding at any point on circumference of wheel. Tool rests mounted on guards and adjustable to wear of wheel. (End covers can be secured for guards, at extra cost, where safety codes require enclosed guards.)

EQUIPMENT—Two 6" x ½" x ½" grinding wheels, wheel guards and tool rests, three-wire cable and plug. Switch in base. Base equipped with rubber pads, and metal plate to enclose switch and motor connections. Carrying handle.

CURRENT—Supplied for 110 volt, 50/60 cycle alternating current. Other voltages available at additional cost.

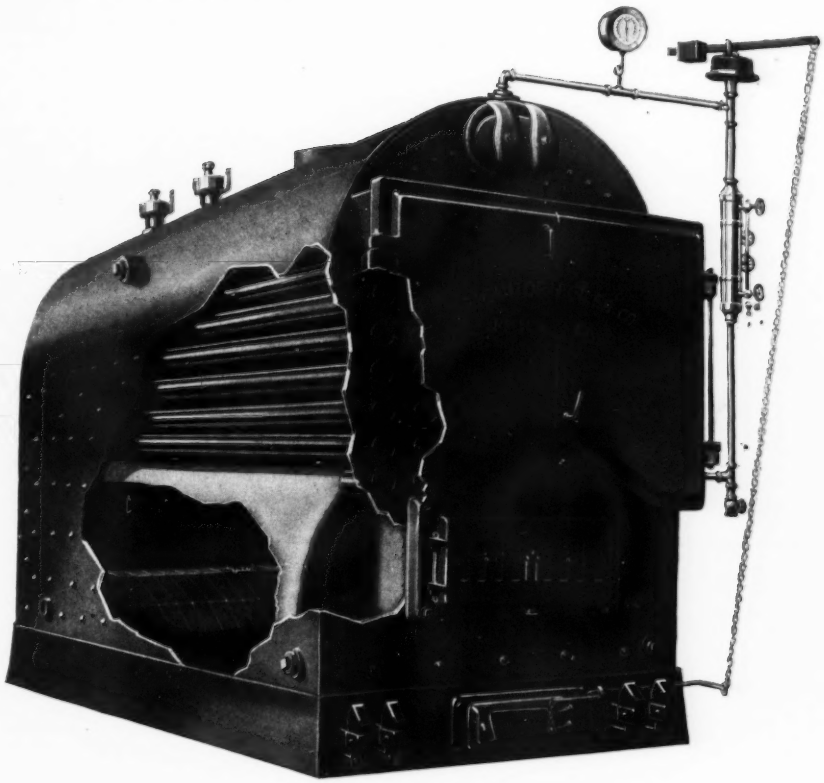
NET WEIGHT—36 lbs.

Ask your jobber about Van Dorn Electric Tools for maintenance work.

The "Van Dorn" Electric Tool Co.
Cleveland, Ohio.

MONCO

STEEL HEATING BOILERS



for

COAL OR OIL BURNING

FIRE TUBE BOILERS COIL WATER HEATERS
COIL HEATING BOILERS

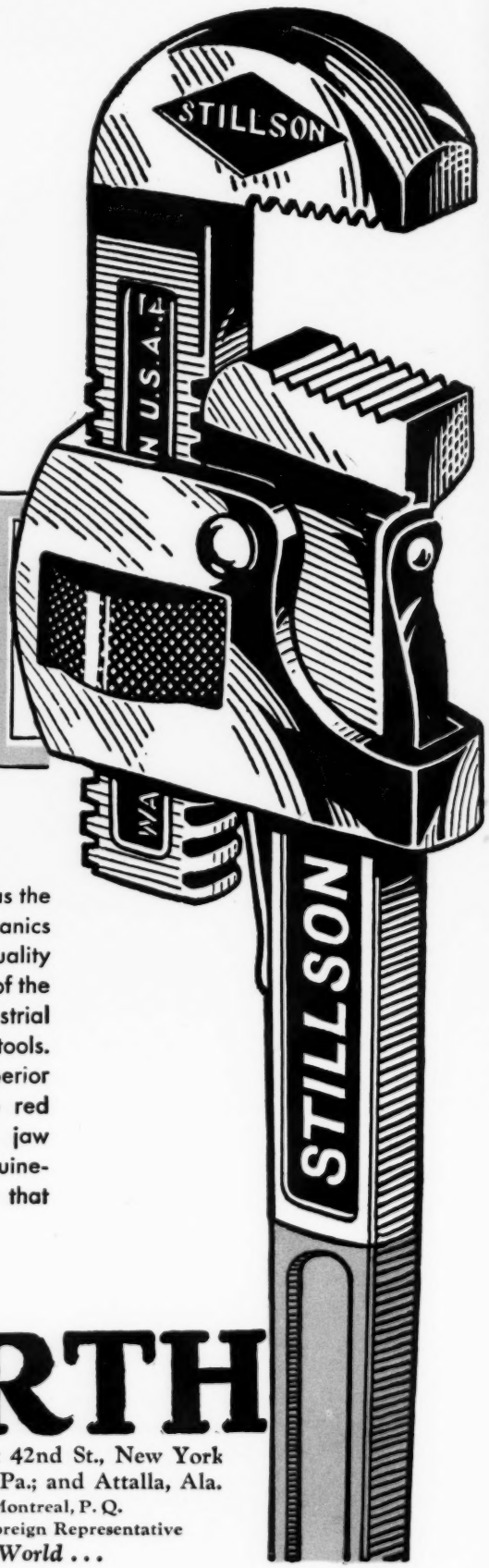
WRITE FOR COMPLETE INFORMATION

MONITOR
BOILER COMPANY

1505 RACE STREET PHILADELPHIA, PA.

Specify WALWORTH VALVES FITTINGS AND TOOLS

for Severe Service



THEY ALL KNOW THE GENUINE

● The reputation of the Walworth Master Stillson as the Genuine appeals to the men in the shops, the mechanics whose efficiency and safety depend upon the quality of the tools they use. ● This general acceptance of the genuine Stillson all up and down the line in industrial plants is based on years of experience with pipe tools. Mechanics prefer this wrench because of its superior strength, lasting quality and performance. ● The red handle and Dan Stillson's trade-mark on the jaw guarantee the greater strength as well as the genuineness of Walworth Master Stillsons to every man that uses them. ●

WALWORTH

Walworth Company, General Sales Offices: 60 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa.; and Attalla, Ala.
Walworth Company Limited, 620 Cathcart St., Montreal, P. Q.
Walworth International Co., 11 Broadway, New York, Foreign Representative
. . . Distributors in Principal Cities of the World . . .

Fire!
On the night of April 12, 1927, in New York City, the inflammable scaffolding surrounding the Sherry-Netherlands Hotel tower caught fire. This disaster called attention to seriousness of fire hazard in inaccessible places. A few days later scaffolding of steel made its American debut on this tower.
Then Tubular Scaffolding of STEEL Removed the Great Hazard!
Tubular Steel Scaffolding, made by the Patent Scaffolding Company, New York, N. Y., brings fire-safe protection. Gives a new ease and speed in erection that cut costs. Quickly adaptable for use many times over on all types of interior and exterior work. This new-type scaffolding is made of COP-R-LOY, the Copper Alloyed Steel—striking testimony to this finer steel made to withstand atmospheric conditions from two to several times longer than steel without copper content.
53,800 lineal feet of Patent Tubular Steel Scaffolding were employed in the repair and renovation of St. Paul's Church, Broadway and Vesey St., New York City.
Save with Steel
WHEELING STEEL

Reg. U. S. Pat. Off.

In COP-R-LOY Pipe, made of this modern Copper Alloyed Steel, a new conception of all 'round service has been realized. It has been a welcome product not alone for plumbing, heating and steamfitting, but for many industrial purposes as well.

COP-R-LOY, furnished in Sheets, Terne and Tin Plate, is available for fabrication into innumerable manufactured articles for the home, factory, farm, for maritime and railroad transportation.

Manufacturers using COP-R-LOY identify their products with the familiar COP-R-LOY Label.

USED in fields of severest service, in mines, oil fields, transportation—COP-R-LOY Pipe endorsed by leading Architects, Engineers and Plumbing Contractors, for the less trying conditions of the home, office and apartment building installations. . . . It is made to a formula that insures two to several times more resistance to corrosion than unalloyed steel pipe—yet retaining the strength, workability and other features that belong to steel alone. There are no service conditions which COP-R-LOY Pipe cannot meet economically.

WHEELING STEEL CORPORATION
Wheeling, West Virginia

Subsidiary Companies
Wheeling Corrugating Company
Consolidated Expanded Metal Companies
Ackermann Manufacturing Company
Pitt Iron Mining Company
Consumers Mining Company
LaBelle Coke Company
The Tyler Tube and Pipe Company

Manufacturers of Bessemer and Open Hearth Steel, Plates, Sheets, Tin Plate, Lithographed Plate, Pipe, Boiler Tubes, Rods, Wire, Cut Nails, Wire Nails, Roofings, Fence, Range Boilers, Tanks, Steel Barrels

COP-R-LOY

Reg. U. S. Pat. Off.

THE COPPER ALLOYED STEEL

A CITY "TOLEDOS" BUILT—

—by the confidence of thousands of contractors in "TOLEDOS" superiority.
A mighty city of cities yet just a few of the hundreds of large buildings on which "TOLEDOS" have been used by the Plumbing, Heating and Electrical contractors.
Whether the job be large or small you, too, will find that "TOLEDO" tools will handle the piping work most efficiently. Our complete catalog on request.

THE TOLEDO PIPE THREADING MACHINE CO., TOLEDO, OHIO
NEW YORK OFFICE: 72 LAFAYETTE STREET

"TOLEDO"

AN ARRAY OF MIGHTY BUILDINGS *A SILENT TRIBUTE TO "TOLEDO" TOOLS*

DOMESTIC ENGINEERING

PLUMBING AND HEATING CONTRACTING AND MERCHANDISING

Observations

Remodeling on a National Scale

It is now three years since DOMESTIC ENGINEERING first called the attention of the plumbing and heating industry to the need for creating a volume of remodeling business. It was urged for several reasons. In the first place, it would serve to take up the expected slack in new building. In the second place, it would tend to stabilize business operations by creating work which could be done at any time during the year. And in the third place, it offered a big field for non-competitive business, where the jobs would be done in the greater percentage of the cases by the man who had pointed out the need for and advantage of a rehabilitation of the plumbing and heating in a home or other building.

In the months which followed, opinion in the industry reflected these considerations and the national modernization movement was started in Chicago, with four of the nine directors of the bureau drawn from the plumbing and heating industry.

Increasing numbers of contractors in our field have discovered that remodeling business is more profitable business than that which must be taken from a scramble of competitive bidding which reminds one of nothing so much as what two football teams do to each other every time the ball is snapped back. There are men who have shifted the emphasis in their business from contracting to remodeling; there are men who have given up new work altogether and are concentrating on remodeling work, unless the contract for the new job is given to them on a basis where there is a reasonable profit in it.

Profitable Business

Our purpose in reviewing these facts at the moment is to call attention to the fact that an even greater impetus has been given to the remodeling movement in a national way. A statement from the chairman of the National Business Survey Conference (he is, by the way, an executive of one of the leading companies in our field) indicates that the conference is paying particular attention to the remodeling movement.

"This definite movement," he says, referring to the organization of a company to provide instalment financing for rebuilding and modernizing old structures, "which is now nearing completion, will be one of the major elements in the national building program."

He follows this with an estimate of the number of dwellings that are twenty years old or more. "Their value, income possibilities and general utility will be greatly increased by the modernization that will follow the release of money on terms for this purpose."

He predicts that the construction industry, "the balance wheel of American industry," will have a new source of activity never before available to it in a unified manner on a national basis.

We want to call particular attention to this statement: "We are proposing that this money be made di-

rectly available to property owners for all remodeling in rental real estate." Notice the specific reference to "rental real estate." Not enough attention has been paid to the possibility of merchandising remodeling to the man who owns a building which he rents out. The field has concentrated too generally on residential remodeling where the owner is living in his own house.

Remodeling for Income

Here is national authority to help point the fact that the owner of rental real estate ought to be even more interested in remodeling than the man who is living in his own home. It means more income to him; it means steadier rental and less vacancies; and it means a better type of tenant.

A case which might be cited in support of these contentions occurred in Detroit. A sixty-three-room hotel, fifty-four years old, earned $15,000 a year in 1924, the peak of its earning capacity. Remodeling possibilities were considered, and plans drawn for an expenditure of $12,000. The improvements were made and the building value was so enhanced that it has been leased for ten years at an annual rental of $17,500. In just a little under five years, the improvements will be paid for. That is a rate of return, 20 per cent, at which no man can afford to wink, if he has rental property.

DOMESTIC ENGINEERING reported a case where colored ware brought a return of twenty-four per cent on the additional investment of one thousand dollars needed to make the bathrooms really modern.

Alert merchandisers in the industry will not miss the opportunity which is to be made available on a national basis. They will supplement their work with the home owner by merchandising to the owner of rental property, and they will have this national financing unit as an aid in taking care of the cost of the job.

National Financing

The remodeling idea will now have back of it everything essential to a salable idea. That men representing national interests think in terms of rental property ought to lessen sales resistance on the part of owners of such property.

A Swift Lesson

One of the authoritative commentators on matters in the steel industry pointed out recently a situation in which that industry got its fingers burned. The thing happened so quickly that there is hope that the lesson was learned. And it is worth repeating for the benefit of our own industry which has not shown too many signs that its own lesson has been learned.

November and December were poor months, comparatively, for the steel producers. With the opening of the new year, the first business offered the producers was "snapped at," and those who did the snapping were evidently "determined to corral some regardless of price."

Here is what happened. The business which was snapped up was not isolated. It was part of the upward movement in demand for steel which continued throughout January and into February. The commentator goes on to say: "Now that demand has come back, there must be universal regret at the short-sighted price policy of January."

Here was a case where the results of a policy of disregarding costs brought its aftermath of regret in double-time. Certainly those who snapped up the business in early January "regardless of price," will not be found doing the same thing again during 1930. American industry, in the past, has not had this happen often enough. Price-cutting has gone on over long periods of time, probably with just enough business at a profit to disguise the full truth about what was being taken at a loss.

Quick Regrets

It is greatly to be hoped that members of our industry, in the revival of the building industry which is most certainly ahead, will not put themselves in the position of feeling "universal regret" by reason of a repetition of what happened during the past few years. Take business at a profit, or not at all.

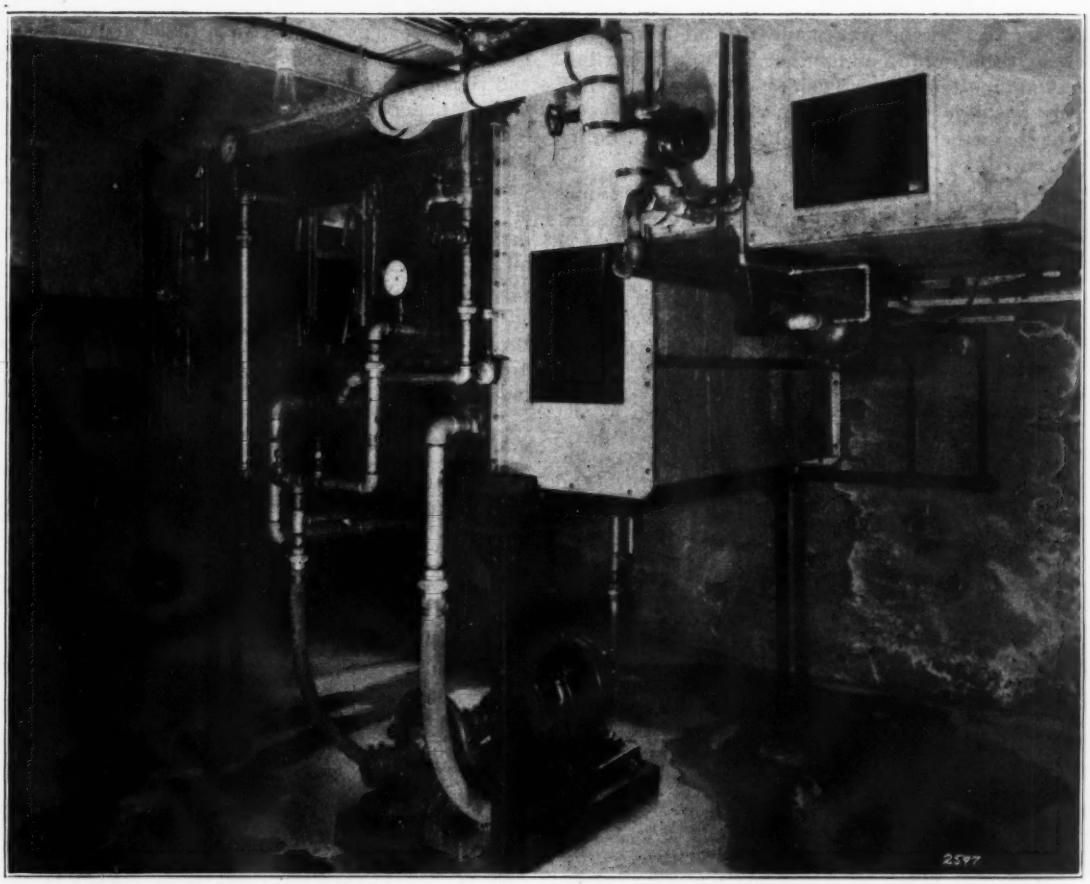
"Keep Better Records"

The assistant secretary of commerce of the United States recently quoted an estimate to the effect that an average of nearly one million merchants in the United States, wholesalers and retailers, do not make adequate, systematic analysis of their business problems.

He said that the words, "Keep Better Records" should be placarded conspicuously in the head offices of every merchandising establishment in the country. Without them, no man can analyze his problems. He may not even know what his problems are. Dr. Klein said that careful stock records and inventory controls, and adequate cost records on accounts and commodities are of vital moment to the success of business.

We are for his slogan, "Keep Better Records." We are more than ever for them after seeing demonstrated at the annual convention of the master plumbers of Illinois just what the right records can do for a man. He had records; but they were misleading him. He knows now that better records are enabling him to make a better profit.

It is not alone that good records give a man an accurate picture of the conditions of his business. Rightly used, they do more than that. Take the case cited above. Here is a man who, if he does the logical thing, will make it a point in his merchandising efforts to develop more and more of that type of business which bears the biggest volume of merchandise sales in relation to the labor involved and, therefore, the best net profit. The more of that business he can get, the larger will become his average net profit and the sounder his financial position in all other departments. He will undoubtedly, from now on, "Keep better records."



Today, scarcely a single residence above a certain level in point of cost is being erected without air conditioning equipment. This is a view of an air washer installed in the modern home described in this article

Air Conditioning Enters *the* Modern Home

By J. C. ALLEN

THAT infant science, air conditioning, has in the last ten years grown, with astounding rapidity. So rapidly has it grown that even the engineer whose business it is to keep pace with developments finds difficulty in doing so. Beliefs of yesterday are gaining acceptance as scientific facts or overturned completely. Humidity, air motion, temperature, ionization, that so-called unknown stranger in healthful air, like the electron in the atom, have been gyrating in the minds of scientists pending the determination of their proper status in the science of air conditioning.

Fig. 1—Direct radiation is used in connection with air conditioning. In this instance, it is concealed behind the grille

So it is not strange that one hears the belief expressed by good engineers that air conditioning will soon enter the home. They do not realize that air conditioning for the home is not a development which may be expected at some time in the future because it is already here.

It was not very long

ago that an endeavor was made to find a home in which air conditioning equipment had been installed. It was difficult to find such a home but today, scarcely a single residence above a certain level in point of cost is being erected without air conditioning equipment.

In order to bring to the reader a clearer understanding of air conditioning in the modern home, the mechanical and air conditioning equipment in an up-to-date home is here described.

Someone has remarked that everybody goes to the

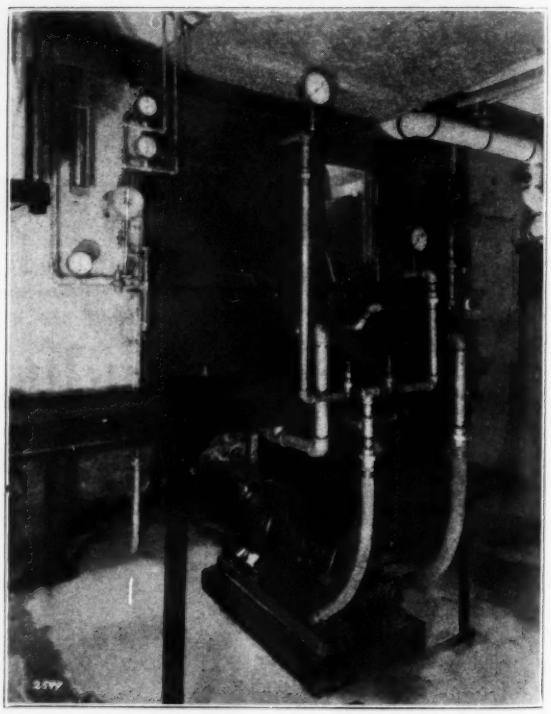
movies. Men, women and children all attend. Invariably they become so completely absorbed in the thriller that they completely fail to observe sanitary conditions surrounding them, be they good or bad. Your home, fortunately, offers no thriller which can make one forget poorly ventilated kitchens, steaming rooms caused by vapor escape from cooking food, stuffy bedrooms, erratic behavior of the heating apparatus, unsanitary conditions in the lavatory, and other inconveniences detrimental to health and comfort. It is the steadily growing importance placed by the individual on maintaining the highest standard of sanitary conditions in his own castle that makes the installation described in this article of particularly timely importance and interest.

This residence is heated by direct radiation. The radiators are placed in recesses under the window sill and are hidden from view by wooden grills, designed to harmonize with the other woodwork in the room. The direct radiation in each room is controlled by a direct acting thermostat in the room.

The lower floor is ventilated by a fan and the air is conditioned by an air washer. This apparatus handles about 5,000 cu. ft. of air per minute, supplying the air to the first floor through a grill in the main hallway and through openings under each radiator. Under each radiator on the lower floor is an opening 4 inches wide and running the full length of the radiator. In the main hallway under the staircase is a 3 ft. by 3 ft. grill where the returned air is taken back to the washer. The tempering coil before the air washer is controlled by a thermostat which not only regulates the temperature of the air entering the washer, but also controls the mixing dampers and regulates the amount of returned and fresh air entering the washer. If there is a great deal of smoking in the house or if in summer they wish to supply all fresh air they can set the mixing damper so that no returned air and all fresh air is used. The reheating coils are controlled by a thermostat in the main hall. The temperature of the air entering the rooms on the lower floor may be maintained at whatever temperature is desired. The apparatus can be started or stopped either in the basement or from the first floor by a remote control switch which is

Fig. 2—The heat outlet is disguised by the grille which is of wood and finished similar to the surrounding woodwork

Fig. 3 — The fan and air washer pump are controlled through a dual switch so that the fan is never running without the air washer



hidden from view behind a secret panel in the hallway. The fan and air washer pump are controlled through a dial switch so that the fan is never running without the air washer. The air washer has an automatic humidity control to regulate the amount of moisture desired in the house.

Ventilating Bedrooms

For ventilating the two main bedrooms a much smaller apparatus is used, consisting of a fan and a small air washer constructed of copper which is 2 ft. high and 14 inches wide with only two spray nozzles and four flood nozzles, and handles 400 cu. ft. of air per minute

which gives a 5 minute air change to the rooms. The air washer uses all fresh water and no pump is required. The fan and washer have remote controls in the bedrooms for starting. The fan is controlled by an electric switch with a red light showing when the fan is running and the washer is controlled by a compressed air switch which, when on, opens the valve which controls the water supplying the nozzles of the washer. The pressure of the water is controlled by a set valve in front of the control valve. At night when they go to bed the thermostat controlling the direct radiation, which is kept around 70 deg. Fahr., is thrown off and the apparatus in the basement started. The temperature of the entering air is regulated by a thermostat in the room which controls the re-heating coils in the basement. The temperature of this room is generally kept around 50 deg. Fahr. in winter, and in the summer from 4 to 12 deg. Fahr. below outside air, depending upon the humidity of the outside air. When they are ready to get up in the morning, without getting out of bed they can turn off the ventilating apparatus and throw on the direct radiation, and in 15 minutes the temperature of the room will be back to 70 deg. Fahr.

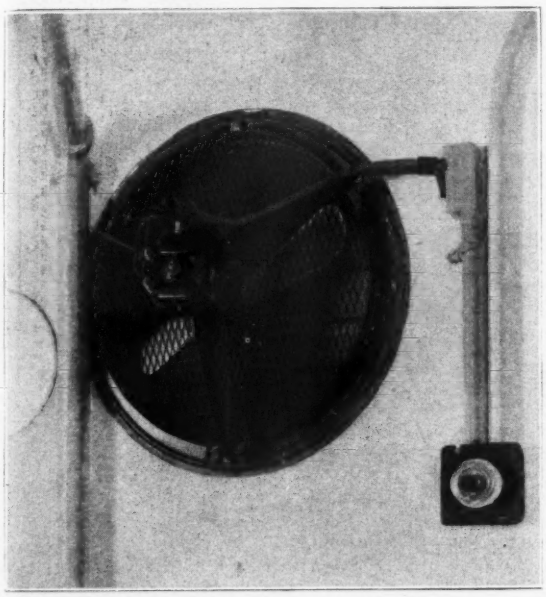


Fig. 4—The laundry in this home, as well as the other rooms, is ventilated by a fan placed above the range. Louvre dampers prevent back-draft

Sound Insulation

To prevent any noise from the apparatus being transmitted through the ducts and also to prevent an air noise, they have placed felt baffles in all of the main ducts. These baffles are nothing more than strips of wood about ¼ inch thick with ⅛ inch felts nailed on both sides and must be so arranged in the duct as to not block off the clear area and increase the velocity of the air through the duct at this point.

The heating units used are a boiler in winter and a gas boiler in the spring and fall of the year. These boilers are controlled by a thermostat in the main hallway, which is set at a temperature of 70 deg. Fahr. When the temperature drops below 69 deg. Fahr. the oil burner or the gas burner, whichever is being used, is automatically started and when the temperature goes up above 71 deg. Fahr. the burners are shut off.

Toilet Ventilation

In the basement they have a small electric exhauster with a 1/30 H.P. motor for exhausting from the toilets, the fan exhausting into the laundry flue. This small fan takes care of six toilets, handling 20 cu. ft. of air from each bowl, which you can readily understand is sufficient as the average person will completely cover the seat and the air is then taken in through the space between the wooden seat and the porcelain bowl. Each toilet has a 2-inch connection from the bowl to the exhaust duct which is concealed in the wall.

The method of ventilating the kitchen is by the use of an aluminum hood which covers the sides and top of the range. There is only 1-inch space between the stove proper and the hood, and a small fan direct-connected to a motor is placed in a recess in the wall and connected to the back of the hood. This fan will exhaust about 400 cu. ft. of air per minute from the room. As compared with the overhead hood, it not only eliminates the unsightly big hood sticking out in the room, but also makes it more comfortable for those working around the stove as there is no tendency for heat reflecting downward and at the same time does not become unsightly due to grease accumulating on it.

The laundry is ventilated by a small 16-in. propeller type disk fan with light aluminum louvre dampers. The fan is placed just above the range in the flue. When the fan is running the dampers are open and when off are closed to prevent any back draft.

For drying the clothes a small steel structure about 7 ft. high, 4 ft. wide, and 6 ft. long is used, with canvas sides that can be lowered when in use. On the top of the dryer is a small 12-in. multiblade disk fan direct connected to 1/30 H.P. motor, which blows the air down upon the clothes and gives constant circulation of air in the dryer.

The most remarkable feature of this whole system is that little care is required to keep everything in running condition.

Except the oil for the boiler which is delivered about twice a week in the winter, it has not been found necessary to do anything more than to oil the different pieces of apparatus about once a month.

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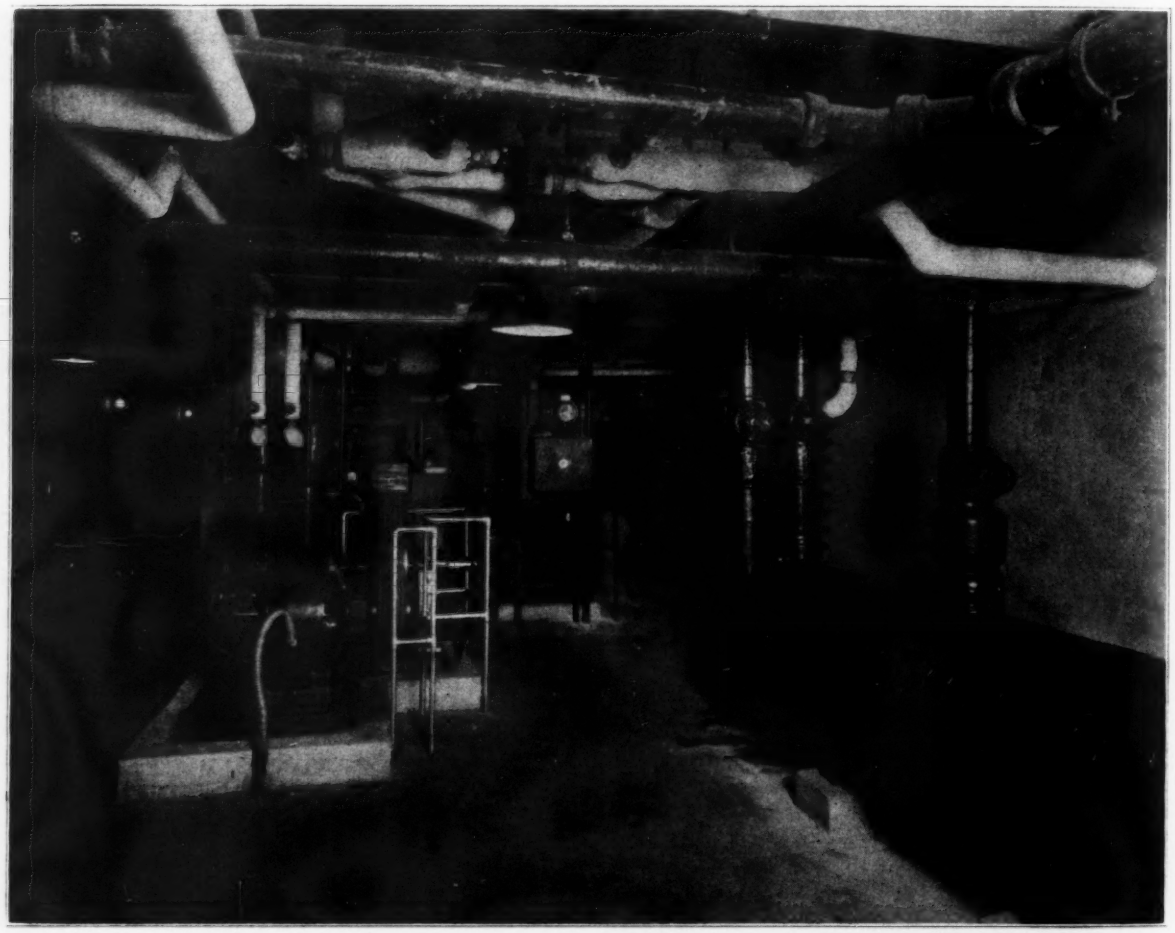
Corn Stalks Turned to Heating Gas By University of Illinois Chemists

By combining ordinary sewage with corn stalks in a simple process, University of Illinois chemists are recovering large quantities of methane gas which can be used for heating, for operating motors, and for driving engines producing electricity, according to an announcement made at the American Chemical Society's 78th meeting held recently in Minneapolis. Dr. A. M. Buswell, professor of sanitary chemistry at Illinois, assisted by C. S. Boruff, discovered the process, which operates without machinery.

Bacteria from sewage acting on the cellulose in the corn stalks creates the gas. The University of Illinois has recently applied for patents on the process.

The Johns Hopkins Physiology Building



By J. HENRY HALLAM

Piping from the tanks is run around exposed on the basement ceiling to the risers, which are concealed in pipe shafts

THE six-story physiology building of the Johns Hopkins university in Baltimore presents an example of practically all the usual phases of plumbing, heating, ventilation, and refrigeration, and also an unusual one, a compressed air system for respiratory purposes. The plumbing and heating contractor making the installation was Lloyd E. Mitchell, Inc., of Baltimore.

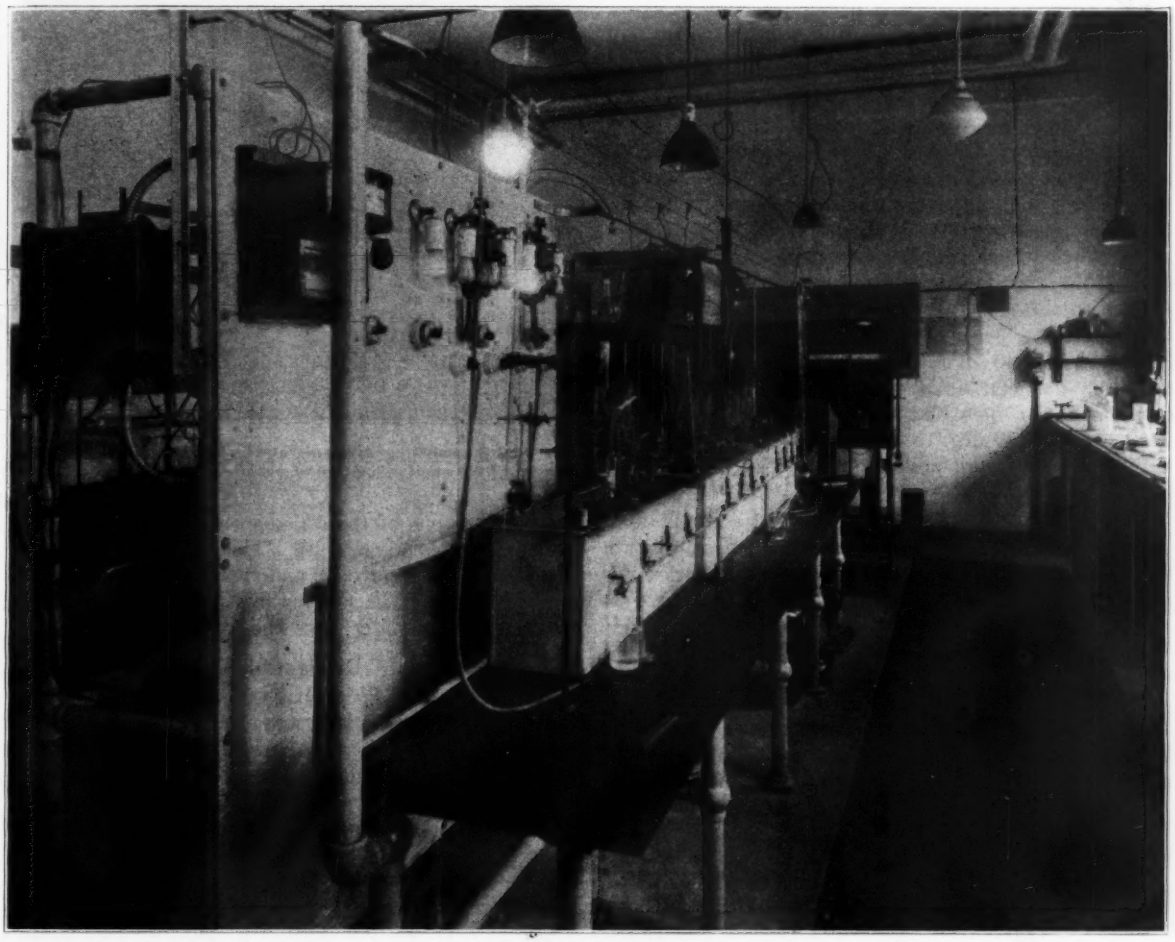
It may be interesting to know that physiology is the science or theory of the properties, processes, and functions of living organisms; and many experiments of great value are being performed in this building that continually necessitate perfectly working mechanical equipment in the laboratories.

In addition to the six stories of this building there are also a basement and a sub-basement. In the sub-basement can be found the pipe terminals and machinery, and in the basement are the storage rooms. The first five floors are devoted to research and test laboratories, with the sixth floor made into paddocks for animals.

Storm Water Sewage

The storm water sewage is taken care of by a gravity and a sump system. The roof drains from the fifth and sixth floors are connected in a pipe space over the fifth floor, and are carried down through pipe shafts to the basement ceiling and thence to the sewer by gravity. The various buildings of the university are connected by a series of underground tunnels. The tunnels leading to this building, as well as the sub-basement and foundations, are provided with drains which are below the level of the storm water sewer pipe in the street bed, so that all drains are led to a sump pit, and thence pumped to the sewer. The sump pit is 4 ft. in diameter and 8 ft. deep. The pump is a duplex unit, motor driven, and is equipped with an automatic float switch. It has a capacity of 100 gallons per minute

...a job involving skill in every phase of plumbing, heating and ventilating



View of the laboratory giving some indication of the piping requirements

against a 30-ft. head. In addition to the pump, the pit is provided with a water ejector for emergency use. This ejector has a capacity of 20 gallons per minute against a 30-ft. head. All rain-leaders are provided with running traps and clean-out plugs at the base, in easily accessible places.

Sanitary System

The sanitary system is a combination circuit and loop venting system. Here the engineers were confronted with a problem as to the selection of the proper materials to withstand the many destructive acids used in tests and experiments. Each research and test laboratory has one or more stoneware sinks and stoneware drainboards used for such purposes and equipped with acid-resisting waste strainer, plug, and traps. As far as possible all soil and vent stacks are concealed, with branch remounts exposed on the ceiling below the fixture. The vents are collected together in the attic space over the sixth floor and carried through the roof at two points.

A great number of waste outlets are provided in the laboratory tables. These outlets are set flush in the tops of the tables, and take care of the waste from the various apparatus that are used at times on these tables.

Water Supply

Cold water is supplied to the entire building direct from the city mains. Just inside the building wall an outlet is provided for the fire system. This is ahead of the building valve. Just past this outlet is a pressure reducing valve which reduces the pressure from 100 or 105 pounds to 75 or 80 pounds automatically. The pressure reducing valve is provided with a by-pass. The cold water is then distributed to the basement ceiling and to the various risers, as well as to the hot water heater,

ammonia compressor, ammonia condenser, air compressor, etc.

The air compressor is connected directly to the city supply in the basement ceiling, and is controlled by a water governor, automatically taking care of the supply to the jacket of the compressor. When the compressor stops the water automatically will shut off, and the supply cuts on when it starts again.

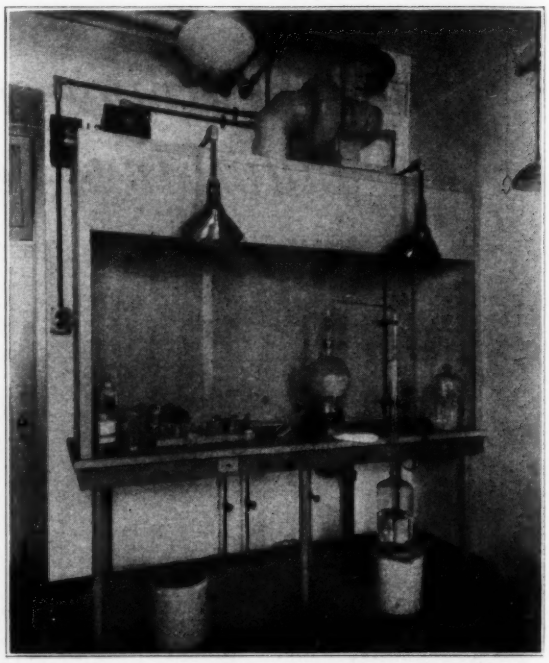
The water to the ice machinery is first taken from the city supply to a centrifugal motor driven pump, and then pumped to ammonia compressors and condensers.

A novel arrangement is made by taking the waste water of the compressor and condenser and carrying it back and connecting it into the cold water supply of the hot water heater. A three-way relief valve is installed into the line, arranged in such a manner that when the heater cannot take any more water the pressure will open the valve and discharge the water into the sewer.

The cooling water pump is automatically regulated to start and stop as the compression starts and stops. This equipment can also be controlled manually.

Hot water is generated in a combined service heater and storage tank. The tank is extra heavy, being 42 inches in diameter and 96 inches long, and having a capacity to raise the temperature of 1250 gallons of water per hour from 40 deg. to 80 deg. Fahr. when operating with ½ pound steam pressure. Its storage capacity is 575 gallons.

In order to provide a dependable and constant temperature of the water, two temperature regulators are placed on the steam line to the heater, which work automatically in controlling the steam. The regulators are set approximately 2 deg. Fahr. apart. One regulator is 2½-in. and the other 4 in. The object is that under a light load the smaller valve can carry it, while at a greater demand the larger one cuts in and still maintains the same determined temperature. The hot water is taken from the heater to the main and then to the attic over the fifth floor, where it is distributed to the various down-feed risers controlled by a valve on each. A circulating branch is taken off at the bottom of the risers on the basement ceiling and carried back to the heaters. At the base of each one of these risers a valve and dripcock is provided for emergency use. The circulating branch is provided with a gate valve and check valve before entering the heater. The check valve is set at an angle of 45 deg. All hot water pipes and fittings are of brass.



One of the hooded experiment tables showing the exhaust fan above, which carries odors and poisonous gases to the outside

Refrigeration

On certain of the floors cooling rooms and refrigerators were required. This was accomplished by cooling with brine coils located in each of such rooms. This is taken care of by two circulating pumps on the return brine lines.

Compressed Air

The nature of many of the experiments in these

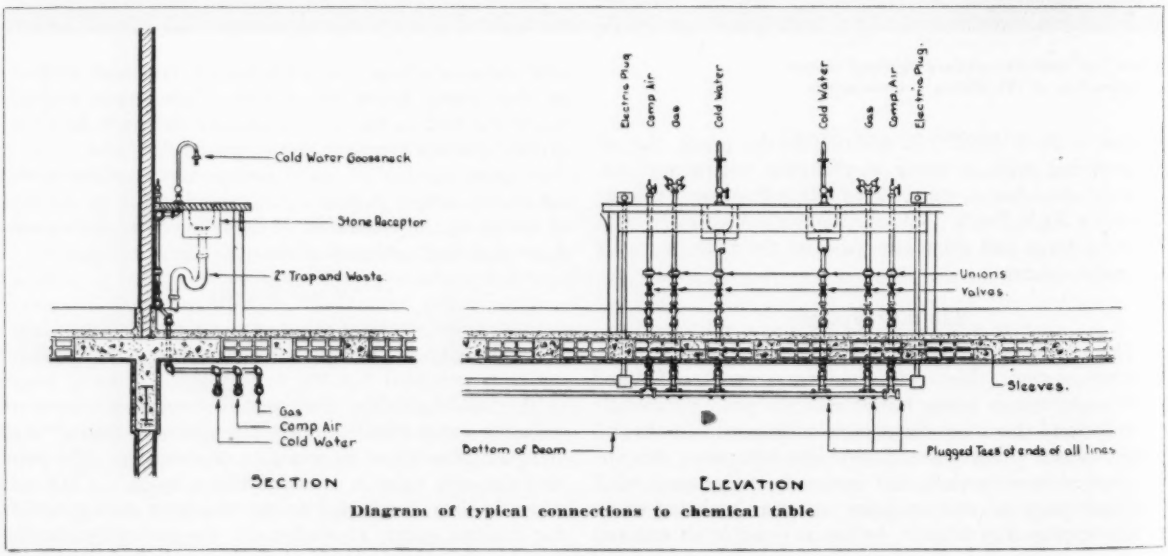


Diagram of typical connections to chemical table

The Johns Hopkins university physiology building which contains many examples of the latest in plumbing and heating skill

laboratories requires the use of compressed air for respiratory purposes. So important is this that every laboratory has such provision, which is supplied from a central plant.

The compressor is of the double cylinder type and has a capacity to displace 75 cubic feet of air per minute, operating at 100 pounds per square inch pressure. At this rate the speed does not exceed 400 r.p.m.

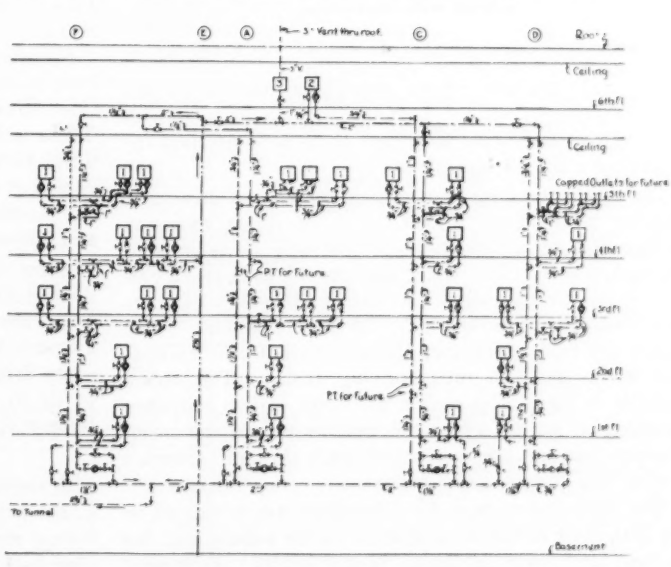
The compressor is electrically driven and the air cylinders are water jacketed. Since a compressor working at this rate would undoubtedly show a great deal of vibration, an especially designed foundation to help eliminate it as much as possible was built. The compressor is set on a concrete foundation which is cork insulated and has proven quite successful.

The two air storage tanks are each 30 inches in diameter and 6 ft. high, having a working pressure of 160 pounds. In conjunction with the tanks and compressor, there is furnished a pressure governor to maintain automatically 90 pounds pressure within the tanks. This governor has a range of from 31 to 128 pounds, and is capable of maintaining a uniform pressure at whatever point set within 5 to 8 pounds. This air system is divided into two pressures, high and low. The low rate is reduced by a valve to 50 pounds. The pressure relief valve is properly by-passed. Relief valves are placed on both sides of the pressure relief valve so as to relieve any excess pressure at any time. Piping from the tanks is run around exposed on the basement ceiling to the risers, which are concealed in pipe shafts. The bases of all risers are valved and dripped, and each branch from the riser is valved on each floor. All air outlets in the laboratories are provided with a single agricultural cock with hose corrugation. Air piping is of standard black wrought iron pipe made up with malleable fittings. The piping between the compressor and the pressure relief valve is extra heavy.

Heating Facilities

The heating of this building required two systems, namely, one for the building proper and the other for use of the laboratory equipment. The first is done by a low pressure vacuum return heating system, and the second by a medium pressure steam system. Medium pressure steam, at 50 pounds pressure, is supplied to the building from a central heating plant, brought through a tunnel in the sub-basement. The steam is first carried to an electric type intergratory and recording steam flow meter designed for a capacity of 6500 pounds of steam per hour at approximately 50 pounds gauge pressure. This meter records the steam flow on a graduated 24-hour chart in terms of thousands of pounds per hour. From the meter the steam is carried to three sets of pressure reducing valves. One for heating the floors below the sixth, as well as the hot water tanks; one for heating the sixth floor only, which, as it is remembered, is used for animals and may require heat when the rest of the building does not. The other valve is for the purpose of the laboratory equipment. The first two mentioned valves reduce the pressure from between 5 pounds to 0, while the last one reduces to approximately 30 pounds.

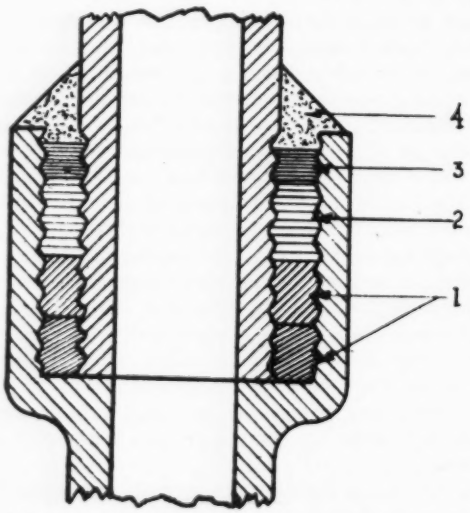
The system for the first five floors is a downfeed one, and the sixth floor is an upfeed system. The two low pressure lines are carried directly to the pipe space above the fifth floor, and, in one case, distributed to the various downfeed users for the five floors below, while in the other taken to the animal paddocks on the sixth floor



Steam and return riser diagram showing 1, chemical hoods; 2, stock kettles and 3, cage washers

above. The return lines in the animal quarters are gathered together in the same pipe space and by one main riser carried back to the vacuum pump in the sub-basement.

The downfeed risers are all valved where they branch from mains in the pipe space and drop down to feed various radiators in the floors below. These downfeed risers are run exposed and the branches to the radiators run exposed on the ceilings below. In the sub-basement these downfeed risers are valved and dripped to the return risers which are all collected together to join



Detail of joint in chemical stoneware pipe. Item 1, represents asbestos rope wicking first soaked in hot asphaltum and tamped in joint tightly. Specifications required that the diameter of the rope should exceed the width of annular space by at least ¼ in. Items 2 and 3 are special putty, 1¼ in. to 1¾ in. and ½ in. to ¾ in. respectively. Item 4 is Portland cement ¼ in. to ½ in. mixed 1:3 and painted with asphaltum

the animal quarters return pipes, and thence to the vacuum pump.

All return risers are so valved as to be controlled independently of the steam risers.

The vacuum pump is a duplex unit, each having a capacity of handling 26,000 sq. ft. of direct radiation surface against a head of approximately 20 pounds to the square inch. The water capacity of each is 35 gallons while maintaining a vacuum of 10 inches of mercury through an orifice of 3/16 inch diameter. The pumps are fully automatic, operated by both the vacuum and water level in the receiving tanks. The entire building is heated by means of direct legless radiators mounted on walls. From the vacuum pumps the steam pressure returns are discharged back through a trench system to a central boiler house.

The 30 gallon system for laboratory use is carried to the fifth floor in the same manner as the others, and fed to downfeed risers concealed in pipe shafts. At present none are in use in the equipment, but plugged outlets make it easily accessible. These downfeed risers are dripped at base and collected together, whence they drop in one place in the sub-basement tunnel, then through a trap, and return to the central boiler room.

Ventilation

The ventilation in a building of this type must be complete in every detail, because of the many dangerous and obnoxious gases that are liberated throughout the many experiments. All toilet rooms, all rooms without an outside exposure and the slop sink rooms have one system of ventilation, and the chemical hoods over the experimental tables have another.

A fan having a capacity of 7430 c.f.m. at a speed of 323 r.p.m. takes care of the first system of ventilation. This fan is located on the sixth floor and the exhaust is discharged to the roof through a galvanized duct. Two main risers, one at each end of the building, take up the horizontal branch from the various rooms, and finally come together in the pipe space above the fifth floor. The horizontal branches from the rooms are run exposed on the ceiling. The exhaust fan has a casing and shell of steel. The motor is provided with a push button control; fused safety switch, speed regulator, and a red bull's eye indicator.

The chemical tables and the exhaust system for them is one of the most complete and carefully designed that can be found anywhere. Some of the gases given off during experiments are of the most deadly nature, as well as highly destructive to metals. This offered quite a unique problem, especially as to the medium for carrying away the gases and for absolute safety in the prevention of gases escaping through joints, etc. A description of the equipment used on these tables is given in the first part of this article. On each table is a chemical hood and an exhaust fan. The hood is coated with an acid-proof lead at least 1/16 inch thick over the interior of the casing and over all parts of the fan. The suction is connected to the hood by means of a lined lead elbow. Each table has its own individual ventilating system, and each hood is discharged directly to its own vent, which leads to the roof. There are now thirty-six such vents running to the roof.

So great was the problem of the escaping gases and their action on ordinary lead pipe, that it was finally decided to use only stoneware pipe ducts for these purposes. These acid-proof chemical stoneware pipes are either 6 in., 10 in. or 12 in. in diameter as required, and connected to the fan by lead lined metal elbows. They are run, as stated above, individually, concealed, to the roof and bonneted.

Some idea may be gained of the precautions used throughout this discharge when the joints in the stoneware are examined. They are tamped tightly with asbestos rope wicking soaked in hot asphaltum, then putty from 1¼ in. to 1¾ in. thick, then another putty ½ in. to ¾ in. thick, and finally topped with Portland cement ¼ in. to ½ in. thick, painted with asphaltum.

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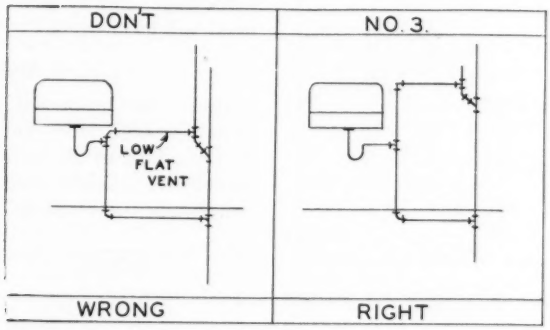
A survey made by the General Federation of Women's Clubs in 1925 indicated that only 68 per cent of city homes were equipped with stationary bath tubs. Enameled bath tubs were installed in the United States at the rate of 480,000 during the period 1913-1922. That figure jumped to an average of 1,100,000 per year for the period of 1922-1928.

Plumbing Don'ts

By R. M. STARBUCK, JR.



50 ways of going wrong on a plumbing system

WE HAVE never seen a complete catalog of the errors that have been found on plumbing installations. If anyone ever attempted to make a complete list, he attempted the impossible, for there is always a new error to be added.

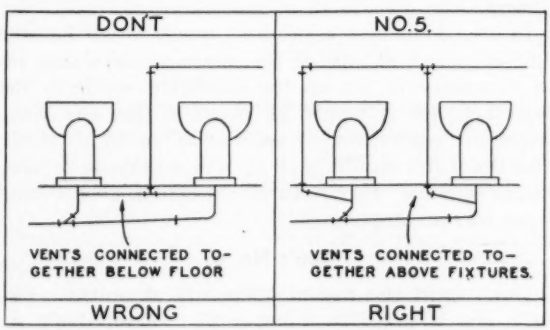
When an error is made on a heating system, there is generally no question as to its being an error, whether the incident occurs in Portland, Ore., or in Portland, Me. With plumbing however, the situation is different,—in one Portland it may be right and in the other Portland it may be wrong, to do the same identical thing. However, we are glad to say that more and more is the future possibility of something akin to universal plumbing practice becoming probable.

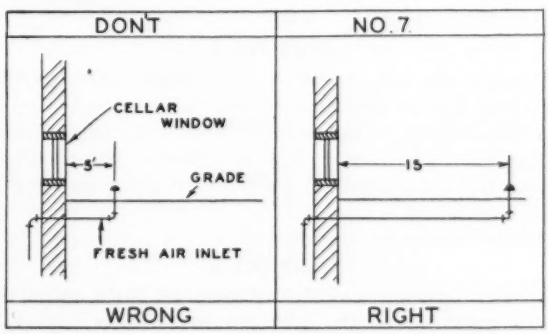
We have always thought that the fundamental reason for this difference in plumbing and heating errors is to be found in the fact that an error in the heating system means that men suffer because of it, —they become cold and uncomfortable and fear that their health will be affected. In plumbing installations however, if the fixtures are white and glossy and the brasswork bright and shiny, no thought is given to the "mess" that the plumbing may be in under the handsomely tiled floor.

Nevertheless, it is not to be inferred for a moment that an error in plumbing is not a serious thing. It does not always make itself known immediately as the heating error is likely to do, but when it does come to light, its presence often becomes as well known as any obnoxious condition that we can think of.

It therefore behooves us as members of the plumbing fraternity, to keep as far away from the errors as we can, and the only way to do this is to know what the right way is, and stick to that way.

We have selected fifty common plumbing errors to talk about, each one of them something perhaps that you have always known about. However, it does no harm to brush up a bit on these things occasionally, and perhaps the particular way in which we are handling these fifty different practices may suggest



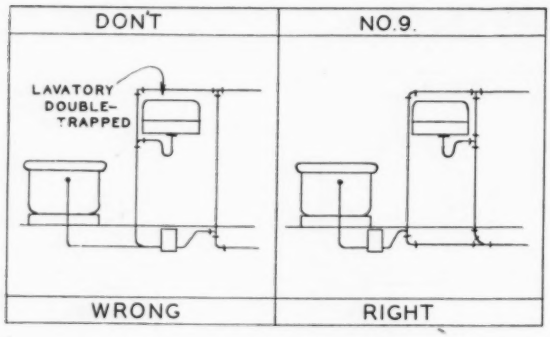


something of value to you. Then again, there may be those giving attention to these various Don'ts who have actually been committing some of these errors under the mistaken impression that they were following correct practice:

Don't No. 1.

Don't connect a vent pipe into a chimney flue.

It is all right to connect a local vent pipe into a

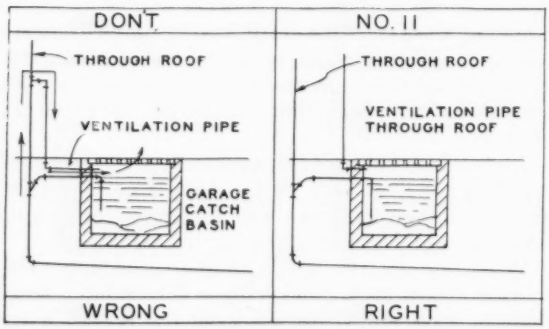


heated flue when it is done according to proper regulations.

There is a great difference however, in the purpose of the local vent and the back vent.

The back vent is for the purpose of providing a supply of air to a fixture trap, to overcome the possibility of siphonage. The local vent however, connects to a water closet or to a urinal for the purpose of ventilating the fixture, to draw the odors into the ventilating pipe, and thus prevent their passage into the room.

It will be seen that the draft created by the ascend-



ing hot air and gases in the chimney will help it draw in the foul air from the plumbing fixtures, so that entrance of this pipe into the heated flue is generally a desirable thing.

Don't No. 2.

Don't run soil, waste or vent stacks through the roof, of smaller size than 4-inch.

This advice is for plumbing installations in cold climates. The idea is that in extreme cold weather, frost will form over the ends of roof pipes and nearly or completely close up the openings of pipes of smaller diameter than 4-inch.

Don't No. 3.

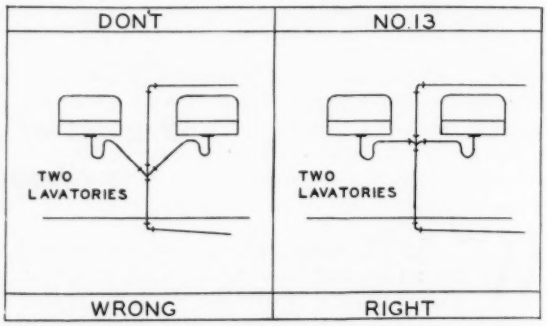
Don't connect a vent pipe into the main vent line at a point below the overflow line of the fixture it serves. The vent should always be connected above that level.

Some plumbing codes call for the connection to be made even as much as 12 inches above the fixture. That is unnecessary. All that is required is to get above the overflow level.

When the connection of the vent into the main line is below the fixture, in the event of stoppage of the waste, sewage discharging from the fixture will flow through the vent. This not only deprives the trap of the protection the vent gives it against siphonage, but it will not be long before the vent itself will be clogged.

Don't No. 4.

Don't run horizontal drainage lines at a less pitch than one-eighth of an inch per foot. One-quarter and one-half of an inch per foot is much better than one-eighth. When run at the latter pitch, the pipe is actually too close to being flat to secure the scour-



ing action that is necessary to keep the pipes sufficiently clear. Moreover, pipes with considerable pitch are capable of handling much greater volumes of sewage. Therefore it is most economical to use as sharp a pitch as possible,—it will often allow the use of a pipe of smaller size.

Don't No. 5.

Don't connect the vents from two adjacent water closets together below the floor.

If you do, you may know that you have provided another path for the waste from each of the two fixtures to flow through.

In the event that either fixture connection became clogged, it will be clear that the water would have an opportunity to pass through the two vent connections and then into the lead bend of the other water closet.

In all probability conditions would often be such that stoppage of one of the connections would not be necessary to set up the condition we have just described, for it would be possible that the waste might for one reason or another move off so slowly that the water would back up and discharge to some extent into the other fixture connection, even though there was no stoppage.

Don't No. 6.

Don't omit the use of cleanouts at points where such use is actually a necessity. Also, don't use

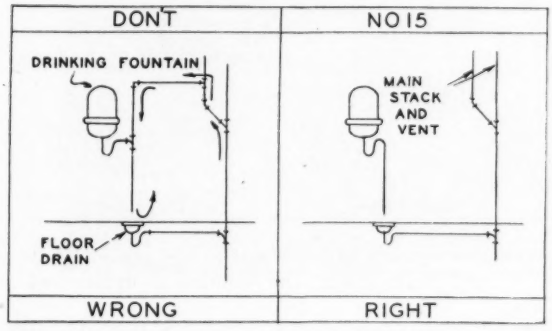
more cleanouts than are needed to properly safeguard the installation. When this is done it imposes an expense upon the owner that should not be exacted. Also, cleanouts are used carelessly, the covers often being removed and left off permanently. Many other abuses might be named, all of which are arguments against the promiscuous use of cleanouts.

Don't No. 7.

Don't install a fresh air inlet in connection with the house trap so that it will terminate at a point less than fifteen feet from a window, door, cold-air box or other opening into the house.

This distance is greater than some ordinances make it. Ten feet is often the required distance, but fifteen feet seems safer.

The reason for this regulation is obvious. While the fresh air inlet, judging from the name, is for the purpose of bringing into the drainage system a supply of fresh air, it also often expels from the plumbing system foul air, and it is clearly seen that it is necessary to locate the terminus of this inlet pipe



sufficiently distant from the house openings to prevent this foul air from entering the house.

Don't No. 8.

Don't let the solder run through to the interior of the lead pipe.

Sharp points formed by the solder will catch paper and other materials, and eventually perhaps form a complete stoppage.

Also, don't let the pipe protrude in making a branch joint. This will also present an obstruction to the proper flow of waste.

Don't No. 9.

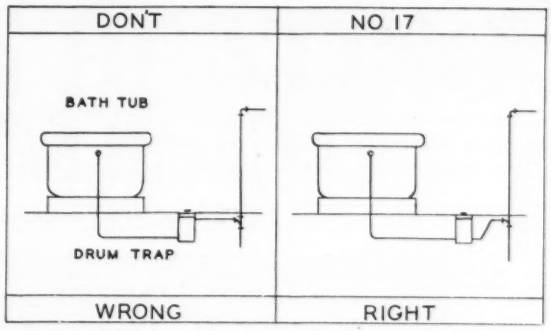
Don't connect the waste pipe from a plumbing fixture in such a manner that the fixture will become double-trapped.

It is generally easy to avoid this situation, as indicated in the illustration.

When a fixture is double-trapped, the space between the two traps becomes air-bound when the fixture discharges, and this causes a slow passage of the waste to result, under which condition ultimate stoppage is likely to occur.

Double-trapping occurs more often than generally supposed.

We have seen an instance where a sewage ejector was triple-trapped, if the term may be allowed. The



connections formed a trap of the fixture itself, there was a special running trap used on the ejector, and the discharge of the ejector was through another running trap, making a total of three traps.

Don't No. 10.

Don't use prohibited fittings on soil, waste or vent pipes.

Never use tees or quarter bends on drainage lines. Double hubs are generally prohibited. Double tees and double sanitary tees are prohibited by many plumbing codes. When properly designed, the double sanitary tee should be allowed, we believe.

Don't No. 11.

Don't connect the pipe that ventilates the garage catch basin in a public garage, with any vent pipe connected to the drainage system.

The reason for this is that when such a connection is made, it forms a by-pass for sewer and drain air and gases to pass into the interior of the garage, through the ventilating pipe. This may be clearly seen by the arrows shown in the illustration.

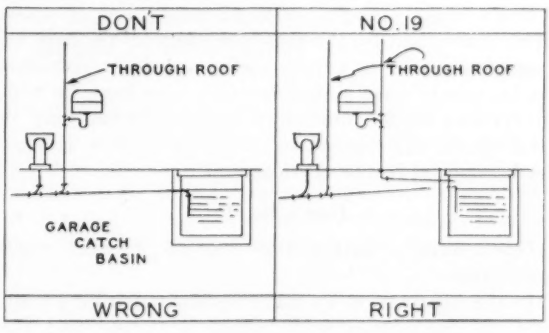
The only proper method is to carry this ventilating pipe to the outer air, which is generally through the roof.

This pipe is very generally alluded to as a vent pipe, but in reality it is a ventilating pipe.

Don't No. 12.

Don't fail to give proper support to all soil, waste and vent pipes.

All soil, waste and vent stacks should be provided



with floor rests not more than one story apart, the same to be placed just beneath a fitting.

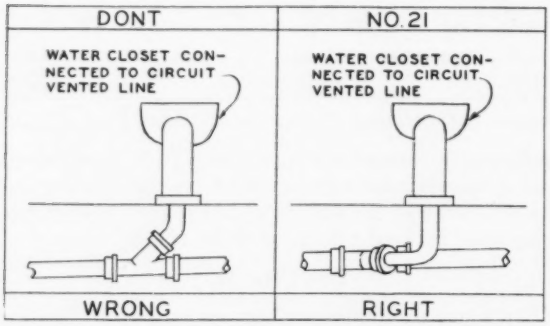
All free standing stacks should be supported at the base by brick, stone or concrete piers. All sus-

pended horizontal lines should be supported by heavy iron hangers.

Don't No. 13.

Don't use any trap on continuous vent work that has not a horizontal outlet.

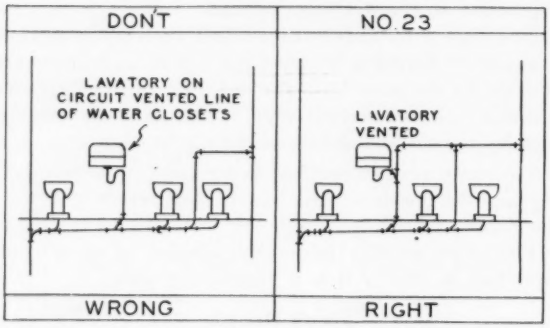
This requirement would make it impossible to use



¼ S traps or S traps on this work. A P trap is proper to use, also a drum trap when the waste enters the drainage fitting horizontally.

Correct conditions for continuous venting call for a total fall on the outlet of the trap of not more than the diameter of the trap, in the distance between the trap and the point at which the vent is connected.

It will be seen that traps with outlets at an angle, as shown in the illustration, admit air from the vent



into the trap from such a low point that the air supply cannot properly overcome siphonic action.

Don't No. 14.

Don't make changes in direction of soil or waste pipes other than by the use of 45-degree Ys, half Ys, long-sweep quarter bends, sixth, eighth, or sixteenth bends, except that single sanitary tees may be used on vertical stacks, and short quarter bends may be used where the change in direction of flow is from the horizontal to the vertical.

Don't No. 15.

Don't vent a fixture that has an indirect waste connection.

In the illustration we have shown a drinking fountain, in connection with which to bring out this error, but exactly the same thing would apply in the case of any other fixture, for instance a refrigerator, soda fountain sink, condensing tank, etc.

The objection to venting such a fixture is that it always forms a by-pass for the passage into the building of drain and sewer air and gases. This is shown by the arrows.

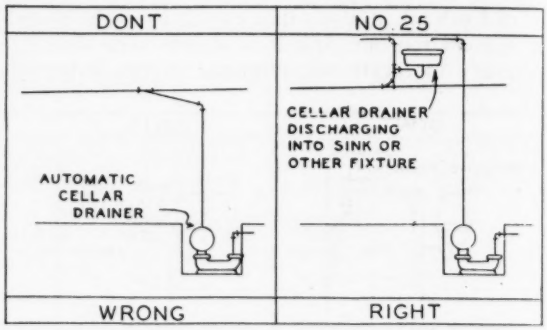
Not only is the venting of such fixtures objectionable for this reason, but there is no reason for venting them, as there are no conditions which would induce siphonage of the trap of an indirect-connected fixture.

Don't No. 16.

Don't use anything but a grease trap in connection with kitchen sinks of hotels, restaurants, clubs and other buildings or institutions where unusually large quantities of grease enter the waste.

Don't No. 17.

Don't connect a drum trap in such a manner that removal of the cover will create direct communication between the interior of the house and the sewer.



When the waste is taken out of the top of the trap as in the illustration, the condition mentioned is set up.

The proper method to use in avoiding this difficulty is to take the outlet pipe from the bottom, as shown in the correct illustration, and use with this pipe as shown.

The effect of this method is to make a long trap, for the waste will stand in both inlet and outlet, and when the trap is some distance away from either the fixture or the stack, a trap of considerable length results.

This is the undesirable feature of such a connection.

Don't No. 18.

Don't run earthenware pipe of any kind either underground or exposed, inside the foundation walls of any building.

When earthenware pipe of any kind is used, there is danger of broken pipe or fittings, and of broken and leaking joints, to a far greater extent than in the use of cast iron.

Don't No. 19.

Don't connect a garage lavatory or sink in such a manner that it does not discharge into the garage catch basin.

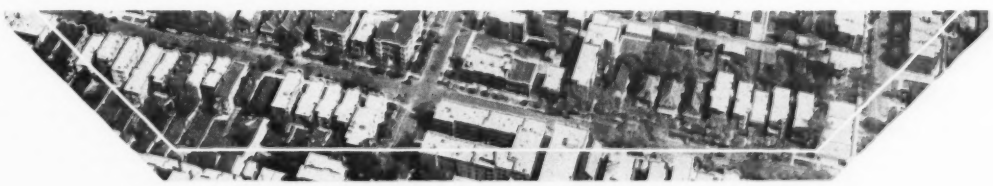
The catch basin in a public garage is used to intercept gasoline and oil, and thus prevent their passage into the sewers.

Automobile mechanics in washing at the lavatory,

(Continued on Page 148)

PLUMBING & HEATING MERCHANDISING

Selecting the Proper Location for a Retail Store



WHAT is the proper location for a plumbing and heating store? That is a question often asked but seldom settled, or seldom appreciated in its full significance by the plumbing and heating merchant preparing to open a showroom or store. Since little or no study has been given to this subject in the plumbing and heating industries, DOMESTIC ENGINEERING has made an effort to clarify the matter by soliciting an expression of opinion, based on experience, from men who have met with success as merchandisers in this field.

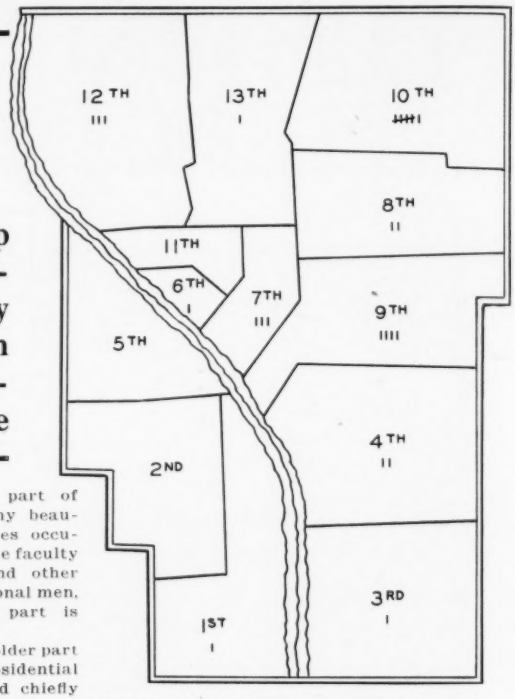
As the first step, a map of a typical American city, of about a half-million population, was drawn up and divided into thirteen wards, as shown on the opposite page with supplementary descriptions of the characteristics of each ward, including the class of residents, number of dwellings, number of plumbing and heating contractors who have shops, stores or no shops, and the number of families in each ward living in apartments. The map and data descriptive of individual wards, with a letter of explanation, were sent to a selected list of retailers, inviting their views on the all-important considerations requisite to the location of a plumbing and heating merchandising establishment.

Analyzing the Market

Out of the replies received have come a number of practicable ideas and suggestions which should be of assistance to those who are planning

Ward	Dwellings 12/31/27	Shops	No Shops	Stores	Families in Apts.
1	2,773	7	0	0	1,145
2	6,744	5	5	0	1,685
3	9,307	7	4	0	692
4	8,038	14	9	0	2,719
5	3,915	4	3	1	1,433
6	1,803	3	1	0	909
7	3,190	16	1	2	5,697
8	8,907	22	10	4	5,918
9	4,394	19	4	3	5,722
10	13,655	20	10	0	1,953
11	3,233	3	1	0	1,603
12	12,587	9	12	0	700
13	7,728	9	2	1	1,636
	86,274	138	62	11	31,812

Here is map and description of city analyzed in the accompanying article



FIRST WARD: The oldest part of the city, originally part of another town and later merged. Settled by Irish and French families, and now by some of the descendants of these families and other foreign European Slavic settlers. Many old dwellings of very good materials, but with little or no modern plumbing or heating facilities, hence furnishing a most potential market for our industry.

SECOND WARD: This is a newer district but largely inhabited by railway employes such as shop employes and trainmen. All of them have nice small homes and exhibit a high degree of home pride; with beautiful lawns; and close to two municipal golf links. While there are no very large homes, yet there are plenty of the smaller type, pleasing to the eye and well maintained. Very few if any renters.

THIRD WARD: A newer district than the Fourth Ward, but largely of the same class of people, except in the far northern district where there are some very fine new homes, owned and occupied by skilled workmen. Here the pride of home ownership is again in evidence, with parks and boulevards; and the working man living in a district and quarters usually occupied by men of much more means, but with no higher standard of living. The market for new plumbing may not be so evident in the immediate future as a few years later.

FOURTH WARD: Composed largely of inexpensive homes of the smaller type, and occupied by workmen who own their own homes with a pride of ownership. All are prospects for modern plumbing in these homes.

FIFTH WARD: Also one of the oldest parts of the city, wherein is situated a very large institution of learning with some 15,000 students attending. Many old New England families settled here in the fifties, sixties and seventies, built beautiful homes of hardwood lumber, etc., but now with antiquated plumbing and heating facilities. Many of these beautiful homes are now occupied as fraternity and sorority houses and are in need of modern plumbing and heating appliances and fixtures. Another and newer part of district still has many beautiful and newer homes occupied by members of the faculty of the University and other business and professional men, while the northern part is more industrial.

SIXTH WARD: The older part of the downtown residential district; now occupied chiefly by a thrifty northern Europe foreign type. Many of the homes are somewhat old but good prospects for remodeling, with the accompanying sale of plumbing and heating appliances and fixtures.

SEVENTH WARD: The western part is also within the loop district, while the eastern part is now situated in the older residential district of the finer type. Many of these homes are still occupied by fairly well-to-do families, others used as rooming houses, etc. All need modern plumbing.

EIGHTH WARD: Here is the better class of homes, but not entirely new. District is changing somewhat as is usual in such localities, and there are many very fine homes in need of renewed plumbing and heating. Some apartments which are also getting old and need remodeling in plumbing.

NINTH WARD: The lower or northern part of this ward is largely within the business loop and the higher or southern in a very fine residential district where some of the "Four Hundred" reside. Here are located some of the older finer homes, however, that are ready prospects for modern plumbing fixtures if attention were properly called thereto.

TENTH WARD: This is commonly called the "silk stocking" district, with some very fine and well kept homes, occupied by the owners, with parks, lakes and boulevards immediately adjoining, and very few apartments because of the restrictions as to such buildings. However, as is always to be found in such districts, there are many "four-flushers" who buy one, two or three gallons of gasoline at a time at the filling stations and are trying to "keep up with the Joneses," and who are not always so prompt in meeting their bills. However, survey somewhat cursory, made in a small portion of this district, disclosed many prospects for additional bath rooms, new plumbing fixtures and fittings, and renewed heating plants, only waiting for some enterprising merchant plumber to try to sell his merchandise. Here are many three, four and five bedroom homes with only one bathroom and yet all crying for more but have convinced themselves, erroneously, that they must wait until they can build a new home, but with numerous opportunities for additional lavatories, closets and showers.

ELEVENTH WARD: Older residential district which has changed considerably during past twenty-five or thirty years. Many old homes that offer prospects for remodeling; few renters, however, and occupied by families of moderate means only.

TWELFTH WARD: Here the skilled workman again comes to his own, with parks, boulevards and lakes at his command; has built for himself, or bought, some very beautiful small homes, with well kept lawns. Modern plumbing of the less expensive type, possibly, installed, but nevertheless always in the market for newer things for the good wife and the daughter who has graduated from high school or college and wants things better.

THIRTEENTH WARD: A later developed district than the foregoing, occupied chiefly by skilled workmen of Swedish and Norwegian ancestry or of the first generation immigrants. All home owners, or very largely, who want to have their homes fixed up and comfortable. Many of them are railway employes in the local railway shops or in the operating department.

to open stores. The analyses made by men to whom these inquiries were sent indicate the tenth ward as being the popular choice for a store, and, within that ward, lies the most strategic point of this typical American city, in the mind of Clarence S. Ruddy, plumbing and heating contractor of Aurora, Ill. The store should be not far from the boundaries of the eighth and thirteenth wards. "This," he says, "would be an ideal location, giving close contact with three wards having a combined total of about 35 per cent of the city's dwellings, and these dwellings of the better than average type.

"You would be in the midst of the 'silk stocking' tenth with its large potential market for all the latest products of our craft, not forgetting that here, too, will be the quickest and largest building development. Neither would you be too far away from the ninth ward with its 'Four Hundred,' nor from the twelfth ward's skilled workmen's homes but that a good system of direct mail advertising would bring rich returns from both districts."

Visualizing Profits

Another retailer who visualizes the tenth ward as the most productive in profits is R. T. Morrill of Beloit, Wis., whose experience has led him to the following conclusions: "I find that with this class of people a well-kept store brings confidence, and induces them to make personal visits to your establishment.

"In doing work for them, the head of the concern is expected to inspect the job, regardless of how small, and he then has an opportunity to suggest changes in fixtures or additions. Better class fixtures can be sold, which means more profit per fixture, requiring less volume, less labor, less worry, and allowing more time to better your business."

Selling the Working Man

J. M. Simmons of the Simmons Plumbing & Heating Co., Wichita, Kan., favors the fourth district because he sees it as the center of surrounding business. He continues: "On one side is the business center of the town, which includes the apartment district; on another side are small homes of skilled workmen. I would judge across the river from this location is the older part of the city, which would include a lot of repair and remodeling work, and also a new section which is composed mostly of home builders.

"I feel that these sections offer a great opportunity for plumbing jobs and, although there are fourteen in that ward already, I believe that a good location where adequate space could be had for display purposes, would enable one to display fixtures to the people in the third and fourth wards as they pass to and from business. It would be near the apartment section, to save time for service to apartment builders, and would be near enough to the residential sections in the fifth and second wards to render them service. The business coming from the twelfth and tenth wards would be let chiefly on contract; and by having a good showroom, these people would be able to drive their cars down to see the display."

"We have chosen the seventh ward," writes Harold A. Best, who operates a plumbing and heating es-

tablishment in Allentown, Pa., "because it is located near the residential and the loop district. We would try to keep our store as near the loop section, on a street traveled mostly by people coming in and out of the downtown district, at the same time trying to avoid getting in too far and losing touch with the residential section. On the other hand, we would avoid the loop proper because of the higher rents."

The Downtown Store

Ranking second, as the most favored store location, is the ninth ward, which E. F. Oelschlaeger, manager of the Fort Wayne Plumbing and Heating Co., Fort Wayne, Ind., indicates as his first selection because of its proximity to the business section. Mr. Oelschlaeger contends that a merchandising plumbing store should be situated on one of the main streets, or very near one of the main and most prominent thoroughfares. "This would be in reach of the downtown trade," he states, "and would also help to advertise. The firm would receive more publicity and would be more generally known. Also, the opportunity for getting some of the business in the other end of the ward, where the 'Four Hundred' class live, would be better. While it stands to reason that this ward would also increase the overhead, on account of higher rents, the return would be greater and should amount to enough to offset the extra expense.

"Our second choice," says Mr. Oelschlaeger, "would be the twelfth ward. A store and showroom on a prominent street in this ward would be very profitable. It would be necessary to keep the showroom always dressed up to date, because there would be many other stores in a locality of this kind, and the best kept store would draw the most attention. The overhead would not be quite so much in this district, but naturally the business would not amount to as much as in a loop store. A good firm in this locality could build up a nice, profitable trade."

Advantages of a Central Location

The ninth ward is championed again by John J. Shanahan, plumbing and heating contractor of Norfolk, Va., who sums up his reasons in these three subheads: "One—a large window public. Two—centrally located; the shortest time consumed between shop and job. Three—necessarily (if with showroom) convenient for architects and clients, if no showroom, convenient to business life of city."

A third believer in the ninth ward is Joseph Ahlbach of Ahlbach & Mayer, Inc., San Francisco, Calif. He classifies his findings in six groups:

"One—this location is in the main business loop and would therefore make it easy to get people to visit your store.

Retail store location is a subject worthy of close study. Here are opinions by men who are conducting such stores in our industry—men whose opinions are drawn from experience. Their conclusions may help you in your choice of a new location

"Two—by advertising to the other business people in the neighborhood and by featuring a good-looking store and display, you could appeal to the local business man, not only for his downtown work but also for his residential work and other rentable holdings.

"Three—business men, large property holders and other people of means are generally the best type of customers and also better financial risks.

"Four—this location is also about the center of the city, and therefore lends itself the easiest to a general advertising campaign for the entire community.

"Five—being so centrally located, you could easily feature the general repair department, and 'shops-on-wheels' going in each direction.

"Six—a good central location in a large city has many advantages over the store in an outlying district."

Not content with making one choice, W. P. Shafer of the A. H. Shafer company, San Antonio, Tex., has made six selections, including the third, fourth, eighth, tenth, twelfth and thirteenth wards, for suitable store locations. He says in part, "I came to my decision on these locations from the fact that the majority of dwellings seem to be in these wards and are occupied by people of the middle and better classes. In my experience, I have found these classes to be the best prospects for new plumbing."

The opposite sort of location than that preferred by Mr. Shafer is that described by C. A. Corbit, president of Corbit Bros. Plumbing & Heating Co., Inc., Reading, Pa., who writes, "I would pick out a moderate priced store space on a quality street in the business section, not necessarily the main street, then advertise sufficiently to tell the public that I am there, and what merchandise I represent.

"I would display plumbing and heating equipment, but I would also handle refrigerators, oil burners and radios as a means to attract the public and make the showroom pay. Handling these side lines would also increase my knowledge of merchandising."

Further support of the tenth ward as a center for a plumbing and heating store is developed quite fully in an analysis prepared by George F. Reeke, plumbing dealer and heating contractor of Green Bay, Wis., who believes this ward offers the best inducements, regardless of the fact that it is already somewhat overburdened with contractors with shops and without shops, in proportion to the number of inhabitants.

The Personal Touch

"The success of a plumbing and heating store," he says, "naturally depends on the personality of the proprietor, his financial ability to make the front of his store attractive and the entire establishment so outstanding that the shopper will not only be attracted but will so advertise it among his friends that the success of the undertaking will be assured from the start.

"It is preferable if a building can be built or secured which will not present the handicap of being hemmed in by adjacent stores, so that it will not lose its identity; it should have sufficient parking space nearby; and should then be so equipped that all fixtures may be placed in the type of room which they serve, with water and other connections made, in order that demonstrations can be given.

"The salesroom should have a saleslady of personality, training and ability to close sales; and a private room with a long table for plans,

and a catalog file so arranged as to give quick information on all matters pertaining to the class of service desired.

"One of the chief reasons for selecting this ward is the restriction on apartment houses, which are usually planned by architects in the business district, who generally have contacts with plumbing and heating retailers in the downtown section. By forming the proper contacts with home owners, most of your modernizing business will be of the selective type, not subject to competitive bidding.

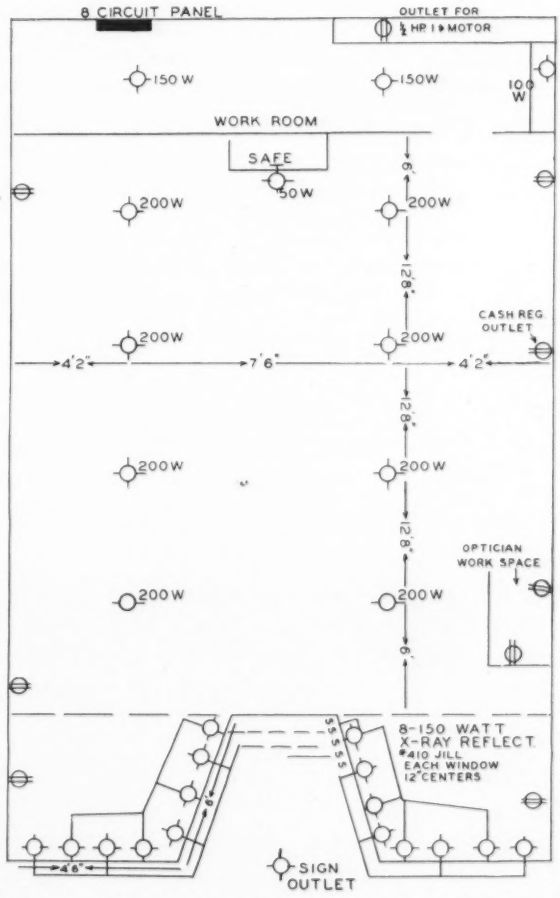
The Outlying Store

"In my experience, the plumbing and heating stores in the outlying districts reap the benefit of an attractive showroom much more than the retailer who maintains a downtown establishment. There is more individuality apparent in the store in the outlying sections. In other words, they stand out by themselves and attract the home owner because they offer unmolested shopping easily reached from the home.

"I know of a ladies' ready-to-wear merchant," continues Mr. Reeke, "who found the question of rents becoming so burdensome in the shopping districts that he concluded to rent a pretentious home on a highway in the residential section, with plenty of parking space. He turned the old porch into a department for all kinds of trinkets and articles in demand by the fair sex; the bedrooms into hat shops and fitting rooms, leaving the pipe organ in the stair hall, and using the dining room as a charming serving room for light lunches. It is not unusual for women for hundreds of miles around to say, 'Meet me at Blank's.' This store not only has individuality, but is doing a larger business than ever before. Perhaps this is painting a beautiful picture, but it has its merits.

"The second, third and twelfth wards offer similar opportunity on a somewhat smaller scale; but, again, personality and nationality must be taken into consideration. There are many people with whom we come in contact, but whom we fail to impress; with them we simply don't fit into the picture, therefore it would be a serious mistake to undertake such a venture unless we are sure of ourselves."

Lighting *for* Better Business



Here is wiring diagram for store and window. Correct lighting helped this store show a sharp increase in business immediately

DRAWING passers-by to his show windows and thence inside to his display of merchandise—briefly stated, this is the reason for the retailer's having a show room. To compete for business with other industries on anything like an even footing, the master plumber has realized that he, too, must display his goods to the very best possible advantage. With this aim clearly in view, he has devoted hours of careful thought and spent in the aggregate many hundreds of thousands of dollars in order to place his establishment on a common ground with retailers in other lines. In countless cases the results have been well worth the effort, but the effort hasn't been carried quite far enough.

Proper Lighting Necessary

While it is conceded that a tremendous amount of buying is done after sundown, surprisingly little attention has been given to the matter of lighting—except on the part of the automobile dealers, who, incidentally, do a large part of their business after dark. Believing that a substantial volume of business could be actually created through a more efficient distribution of lighting fixtures resulting in a higher degree of light diffusion, less eye-strain and the elimination of the customer's

"Before": how this jeweler's window looked before proper lighting was put into his windows

shadow on the goods being examined, a comprehensive survey was made by the Pacific Coast Electrical Association.

With this object in view, two average retail stores were selected. One was a jewelry store in Long Beach, Calif., the other a confectionery establishment in San Francisco. Considering the jewelry store first:

Before the new lighting arrangement was worked out and installed only 16 per cent of the passers-by were attracted by the display. After the change, 67 per cent of those passing the store on foot stopped and examined the window; also, the monthly average volume of business for a period of one year jumped 27 per cent over that for the previous 12 months. Aside from the actual increase in business, the jeweler secured exactly four times the amount of advertising—*proven advertising*—at the rate of only a dollar a day additional cost for electricity.

Increasing Sales

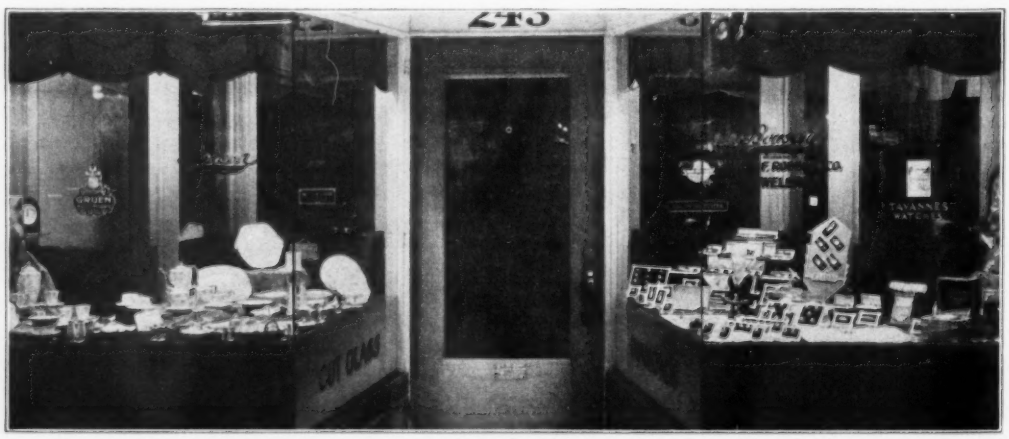
In the case of the San Francisco confectioner, the pulling power of his windows increased 41 per cent. Although the new lighting installation in this establishment has already justified itself to the extent of drawing nearly one-half again as much attention as the old, no figures are yet available as to the increase in the volume of business. In this respect it is not too much to conclude that such increase was even more pronounced than in the case of the jewelry store, largely by reason of the character of goods sold and the lower average amount per sale. The cost of power devoted to lighting purposes, in this case, was difficult to determine, due to the fact that candy-making machinery, such as heavy mixers, were hooked up to the same meter as the lighting circuit.

"After": how the windows shown above looked after correct lighting principles had been applied

Those features which added directly to the effectiveness of the show windows were higher intensity and better diffusion of light. Also, it was impossible for those looking into the windows to see the lights themselves. Comparatively little light was wasted on the sidewalks; and while it was highly concentrated on the contents of the windows, the diffusion of rays was so complete, in spite of the added intensity, that the urge to go inside the store was undeniable.

In the interiors of these establishments the lighting problem was successfully met by creating an evenness or diffusion of light from one end to the other. This resulted in eliminating the customer's shadow on any object over which he might be standing while examining it.

In his effort to attract business through the medium of his show windows, and to close sales on his showroom floor, the master plumber should not lose sight of the fact that his goods lend themselves particularly well to display purposes, and are unusually well adapted to showing under artificial light. Enameled



ware and pottery, both white and in colors, chromium-plated fixtures, brass goods—in fact, everything the plumber has to sell, have attractive qualities in themselves. Such goods well arranged, and displayed under an effective lighting system, at a disproportionately low additional cost for electric current, should bring the same results to the master plumber as those attained by the jeweler and the confectioner.

The Master Salesman

Gives us the final scene in the story of the washing machine—the close and analysis of the entire transaction

THE progress of the Master Plumber in building up the sale of a washing machine, published as Part 3 in our last issue, brought to light a new resistance in the form of the laundress. While it was the purpose of the Master Plumber to sell a washing machine, Eliza had her job to retain; hence two strong opposing forces were brought together. The Master Plumber gives us the final chapter, and it develops some interesting angles.

I have wondered if you think it worth my while so persistently to follow this prospective sale of a washing machine in the face of the many obstacles that have developed. The fact of the matter is that the entire transaction only consumed one hour of my business day; about fifteen minutes when I called first to inspect the boiler and later not more than forty-five minutes to put the first half of the washing into operation. The two hours spent in my evening visit in no way interfered with my business routine. My first incentive was found in the lessons I was learning in the value of merchandising. There were more than half a dozen other sales in prospect that I would never have worked up if I hadn't found the incentive in this one. That is the first reason. The second is the profit in this sale. I am allowed 33 1/3 per cent and 10 per cent. That equals over $55, and with a vision of the other sales I have worked up, there is a factor in my business which was not there a week ago. So you will understand how important Eliza's opinion had become to me. She might prove a "bloc" to my sale and to my confidence in myself.

These thoughts were turning over in my mind when I left the Browns after putting in the first batch of clothes for cleansing and as I drove to my office I gave a great deal of thought to Eliza and her opinion. She might have a lot to say that might set me back, particularly if she realized that her time with the Browns was reduced from two days to one. I must find some way to make her agreeable to the new order of things. Reasoning along these lines, I arrived at my office, devoted some time to other details and at the end of an hour and a half returned to the "seat of war."

Brown seemed acutely interested. He "beat me to it" on my return; said he "couldn't do a thing at the office thinking about that washing machine working away, washing clothes and nobody paying any attention to it." He was standing in the laundry when I came in.

To his remark I replied: "Well, I guess the old machine has pretty well demonstrated that it is as I said, 'almost human.' Has anyone touched it while I was gone?" I asked.

"No," answered Mrs. Brown, "it is going just as you left it. But Eliza insists that it will tear the clothes, and if it has I am afraid you're in for trouble."

I saw the fearful anticipation of a lot of "ruined clothes" depicted on Mrs. Brown's face as she spoke; I answered her that Eliza had not counted on the perfect action of my machine. I then turned to the machine, shut off the power and removed the cover.

"Now, Mrs. Brown," I said, "take

a look at these clothes before I have Eliza remove them from the washer." I stepped to one side and they all gathered around the machine, including the laundress. Then, turning on the current while the cover remained off, I continued:

"You folks may watch the oscillation of those paddles and you will notice the absence of any sharp or quick movement in their backward and forward motion. That smooth, even action prevents any chance entanglement of the clothes with the paddles."

I think the most interested one among all of them was Brown. He elbowed his way close to the machine and watched everything closely. Then I had Eliza put the clothes through the wringer while I operated the lever controlling the wringer power and in a moment she was doing all the work herself. The more she worked with that wringer the broader the grin spread over her face, until she could no longer keep quiet.

"Lawdy, Mis' Brown, dis heah ma-

"You win," said Brown

chine done wring them clothes out. All Ah's gotta do is turn this here little thing 'round. Ah ain't workin' a-tall."

When the clothes had been put through the rinsing water and wrung once more, were piled in the basket, immaculately clean, they were surely a good aid to me as a salesman. They looked the part of all I had promised the machine would do. Then demonstrating how to draw off the water and replenish it with a fresh supply, and a word or two of advice, I left the second batch for Eliza to take care of.

After she had the machine stocked and running, I suggested that she could put the clothes out to dry and before the second part of the washing was done she would find some pieces ready for ironing. All this had been accomplished before ten o'clock in the morning.

Then we left the laundry and, going into the living room, I stood waiting for the verdict. Believe it or not—there was some tenseness in the atmosphere. I wanted one of them to speak first. I glanced at Mrs. Brown, remembering her question of the day before about the price of the machine. The way she asked it meant to me that she had something in her mind. I looked to her, therefore, for the first remark. I wanted to be ready to take advantage of any suggestion she might make as to how the purchase of the machine could be handled. But it was Brown who broke in.

He had watched closely all the time, and now he turned to his wife and said, "I don't know how we got along all these years without one of these darn things. I'm going to give Jones a check and we keep the machine." Turning to me, he said: "You win, Jones. I buy the cigars."

The unexpected and successful climax to my efforts at selling that machine came as a surprise, but later, after thanking and leaving them, I tried to figure out just where and what was the vital turning point that closed my sale so unexpectedly.

I am not overlooking the fact that I made several mistakes in handling the deal, but I feel confident that I have profited from some very good lessons in studying the unspoken thoughts of my prospect, in holding my desire to talk in check, and compelling myself to do only the thing I decided as right after proper deliberation.

But one thing I would like to know. Please tell me what turned that sale so quick and why was it Brown and not Mrs. Brown who made the decision?

ANALYSIS

Let us make a swift review of the conditions of this sale before answering our Master Plumber's question as to the sudden decision on the part of Brown to buy the washing machine.

I wanted one of them to make the first remark

Naturally, there is no fault to find with his persistence. That is one of the distinguishing marks of the good salesman—persistence, coupled, of course, with planning, foresight, to meet conditions which others may not anticipate.

Our story started with the point at which the Master Plumber really began to think. He had volume without profit; he realized that he could not go on that way indefinitely; he realized that once he had been interested keenly in the small job; he realized that building a profitable business meant getting interested again in every job that came into the shop. He instructed his office employes, enforcing a courteous, considerate response to every call. He was to check each job personally. In accordance with that policy he went to the Brown residence; and there commences the story of the sale proper.

Jones might have been satisfied with his sale of the new boiler. But the mental alertness that had taken hold of him revived his keenness for opportunity. He became observant. Now observe the steps by which he progressed: He notices the clothes "put to soak" against the coming of the laundress in the morning; he leads Mrs. Brown on to tell him the cost of the laundress. Further, he leads her on to an admission of the type of machine she would buy if she did buy one. Jones shows her how cutting the labor cost in half would buy the machine. But he doesn't get

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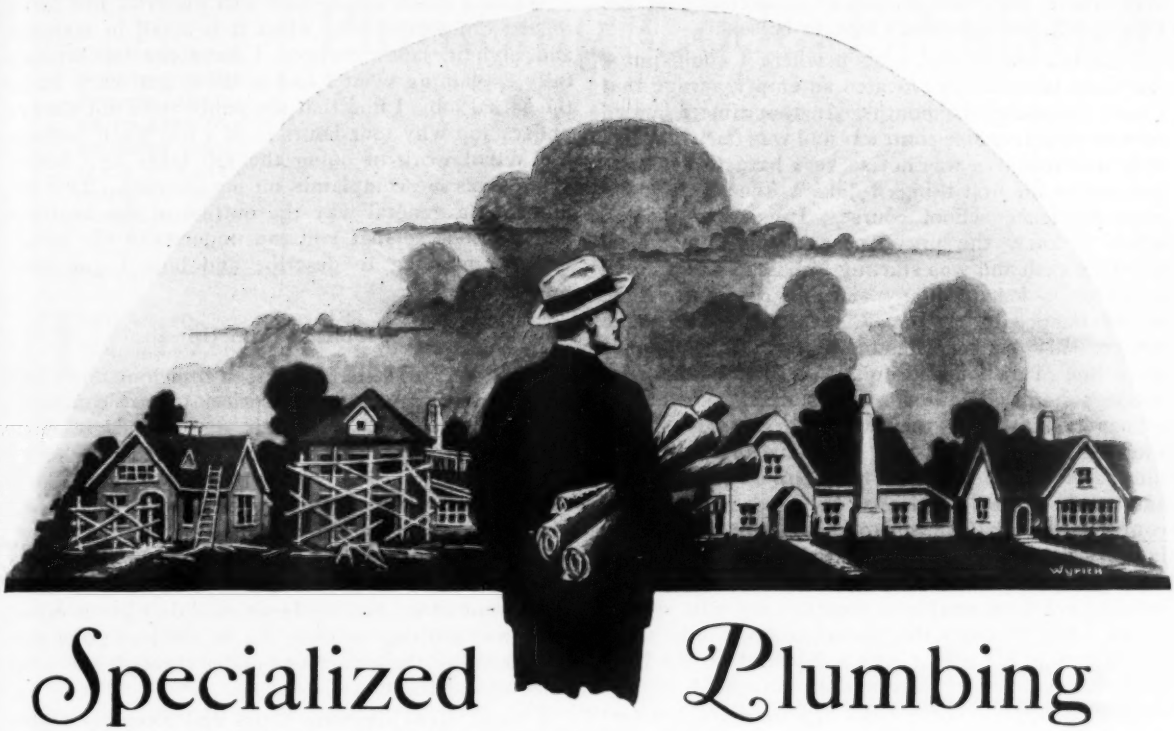


Specialized Plumbing

Here, in his own words, is the story of a man who met changed conditions with a change in his methods of doing business

I SUPPOSE everyone has had the experience of "sitting on top of the world" in one way or another, and something unexpected came along and "knocked the props from under them." Well, anyway, I know I did and I think my story has enough business romance in it to be worth telling:

In 1915 I was a foreman in a shop that employed fifteen to twenty men. We did a general plumbing and heating business that covered every kind from repairs to new work. I had been made foreman two years before and I think one of the reasons for the promotion was that I had spent four years at night school in technical training. It is probably in order to say, right here, that I never regretted those four years of plugging over text books and school problems. In addition to this, I had taken a correspondence school course in bookkeeping and general business management. Even while with the firm I was working for, the training I had stood by me well; I knew what "overhead" really meant, what was necessary in figuring labor on new work. The boys used to kid me about my figures, but I was generally nearer right than most any of the others.

What Training Meant

I remember I had a storage tank problem in a school job that the boss sent me down to look into for him. When I got there the director of the school took me up to the top floor and showed me a space six feet two inches by five feet nine inches with a height of ten feet. He said he wanted to utilize that whole space for a water storage tank. I told him we could put in a standard tank but it would be slightly under the size he specified, and he replied that the tank should be built oblong and use every available cubic inch. Then I pointed out that with such a tank as he specified, we would have to be sure that the floor joist would carry the load. Again he passed it on to me by saying "Yes, I know, but that is your job to figure out." I've taken this time to relate the incident because, without my time at school to learn something more than cutting a thread or wiping a joint, I'd have been stumped. I took the measurements, got the space and the size of the joist under the floor and went back to the office. Getting the weight of the tank, empty, adding the weight of the water, figuring out the load capacity of the joist was easy for me. Even the boss said he couldn't have done it. Well, that was just told to show why I went to night school.

The war started in 1914 and by the middle of 1915 our firm had more work than we could attend to. I got the idea that I ought to get into business for myself. I had a high school and technical education, had served my time as apprentice, journeyman and foreman. Why not get out and work for myself? I decided I would. The town is largely industrially supported, I was well known, and, with building

everywhere, there was no lack of opportunity for me. People were buying—didn't have to be sold.

I started out to find a shop where I could put a few tools temporarily; located an empty garage that I used for about six months. In that time I landed several moderate size contracts and was fairly started. It is true business was not so very hard to get then. But one of the first things I did was the result of my correspondence school course. I went to a bank where I knew the president and told him I had $2,500 in cash and was starting in business. I wanted to know if I landed any sizeable contracts, if he would finance me. Here I got some more sound advice. My banker friend suggested that he give me a line of a thousand dollars' credit and if I was successful and could make a satisfactory showing on a financial statement, they would increase it. But in the meantime, if I got any contracts, bring them to him before I signed up and he'd look up the builder's and owner's credit and also help me make up my contract in such form as to reasonably protect my interest. I never regretted that advice or taking advantage of it. Had it not been for my bank credit I would have been unable to discount my bills several times. But through this co-operation, there is yet the first time for me to miss a discount on my bills. And I have never been unduly obligated to any source of supply. If my bank approved the contract I had offered me, I took it; if they objected to it, I knew the credit risk was bad and I let the other fellow have the job.

When I figured a job I generally figured two ways. One following specifications and submitted open, in the usual way. The other, wherever possible, was based on suggested changes in the specifications wherein I gave better value and a better selection of fixtures. This bid was submitted sealed, with the request that if my competitors were to figure on changes, that they do so on their own initiative. Usually the architect, builder or owner agreed that this plan was equitable and protective.

Repairs and alterations I always appreciated when working for the old firm and I did not discourage them when opportunity brought them my way. In fact, I organized a system of checking all orders with a personal call, either by my foreman or myself, before sending a man on the job. Something else I learned as a foreman; the average mechanic is not interested in selling merchandise, and if I was to get something else out of a job beside labor, it was up to me or a dependable employe to get it.

I gave my foreman and men a bonus on the time saved on that estimated to complete a new job. I paid my foreman a percentage on the merchandise he sold for me on repairs and alterations; that is, such as was not already specified or necessary to complete the work as ordered. I found that this created interest in my business welfare and made the job of my foreman such as kept him with me. He is still in my employ and I guess some master plumbers would think I am crazy if they saw the size of some checks I pay him. But he is a salesman and is making me a profit on every dollar I pay him.

When I make out a time and material bill for a repair job, particularly when it is small in material and high in labor charges, I have the bill written fully explaining what I had to do to get ready to do the actual job. I find that the public does not always understand why four hours is on a bill when perhaps the actual work of doing the job takes two hours. That saves me complaints on my charges. This explains in a general way the outline of my business and methods so that you can understand the condition I am going to describe and how I got from under it.

Problems Crop Up

From 1915 to 1918 business went along fine; had all I could do and got good prices for my contracts. I made money; in fact made more in those three years than I have since, until recently, when I changed my policy of doing business. In 1919 my balance sheet didn't look so good in spite of the fact that I had done as big a volume that year as any year previous. It was then I realized that I had been putting back into my business instead of taking profits out of it; and my business didn't get it either for I had nothing to show for it. It had gone into the pocket of the owner or builder through senseless price competition.

I spent many daytime hours and sleepless nights searching for the remedy that would head off the inevitable disaster. I soon gave up the idea of finding any way to outpoint competition that was figured below legitimate cost. Reluctantly, but determinedly, I decided to give up contract and new work unless it came to me with sufficient preference that would yield me at least a small profit over and above my cost.

In order to be independent and in position to refuse an undesirable contract, I must find something to take the place of that relinquished volume. The force of good judgment, sound reasoning, time and again turned me back to remodeling, overhauling and repair work, so I finally decided that would be my future plan of operating. Also, I had earned something of a reputation for my modern ideas of plumbing, so I decided to capitalize on my connections with architects and the wealthier element of my town. I would specialize on private homes for new work. In training and technical education I had a bit of an edge.

I made it my business to solicit real estate men, maintained a contact with bank officials and other men of substantial means. Through them and what I gleaned from my visits from time to time I got early tips on some one about to build a home for himself. It wasn't long before I had two or three under way. Incidentally, the private homes of wealth were about all that was going in new work. Sometimes the architects objected to my suggestions, but generally I could individualize a plan and specification with changes in fixtures or improved appearances that gave me the right of way over my competitors. I tried to be individual, suggested indi-

(Continued on Page 97)

This tabulation is the seventh in a program designed to give the plumbing industry a concise source of information on codes

Plumbing Code Tabulations

The Use of Cleanouts on the Plumbing System

By R. M. STARBUCK, JR.

Article No. 7

THIS is the second article in the series of three tabulations covering the use of cleanouts on drainage systems.

As you are probably aware, these tabulations are based on the plumbing practice of the United States and Canada, as reflected in 400 plumbing codes of leading cities and towns of the two countries.

As we pointed out in the preceding article, there is much evidence that stands against extensive use of cleanouts on plumbing systems, and in view of that fact we need to face the subject honestly and with open minds.

In a letter which we showed in connection with the preceding article, A. R. McGonegal, president of the American Society of Sanitary Engineering, has brought out some strong arguments against extensive use of cleanouts, and drives his arguments home with the final statement that Washington, D. C., whose chief plumbing inspector Mr. McGonegal is, "has not permitted a cleanout for thirty years."

He makes this statement also: "I believe it is safe to say that not more than one in one hundred cleanouts is ever used."

Such a statement coming from an authority of so many years' experience as Mr. McGonegal can point to surely carries weight with it.

Should Cleanouts Be Eliminated?

It is a very strong statement, and yet every one of us will have to admit that in our own experience, perhaps in our own houses, the truth of such a statement can very likely be proved. On the other hand, conditions will arise under which a cleanout is worth many times its price.

In the writer's own house several years ago, use of a cleanout at the foot of a kitchen stack enabled the clearing of 35 ft. of underground pipe which had completely clogged with grease. This meant the saving of the expense of taking up that line of pipe.

As we look at it, the question comes down to this: Is the owner more benefited by the installation of a reasonable number of cleanouts at the most vulnerable points in the drainage system, or by the entire absence of cleanouts, with the resulting necessity at some time or another of having to break into a line of drainage pipe, take it up and then relay it at considerable cost?

Give us your own personal thought on this subject, and base it upon your own practical experience. That would be worth more than all the theorizing that we could offer you concerning such a proposition.

Probably as a people we are inclined to run to extremes. In building a plumbing code, when we start in to put cleanouts into a plumbing system, that for the time being is the biggest thing there is. Our enthusiasm gets away with us if we don't watch out. And right here the sober results of long experience come in to balance the situation.

In the previous article we illustrated what seems to be too great use of cleanouts, by calling attention to one of the cities shown in our tabulation. Along the same line of thought, not to criticize for the sake of criticizing, but to do so constructively, we show in Fig. 1 the use of cleanouts as called for in one of the middle-west codes. Here is a case, it seems to us, of excessive use of cleanouts. This catch basin, as we look at it, does

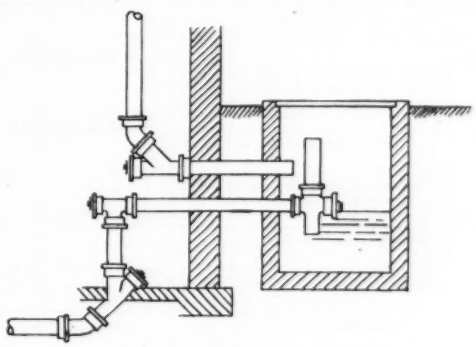


Fig. 1

not require so many cleanouts. Perhaps we are wrong. If so, we are willing to have the right way pointed out.

Coming now to the consideration of the tabulations we are offering you, we will state that they cover the practice of municipalities in the states of Massachusetts to New York, inclusive, taken alphabetically.

Send in Copies of Your Local Codes

By the way, if your own local code is not among those appearing in these tabulations, please take it upon yourself to supply DOMESTIC ENGINEERING with a copy of your plumbing code, and your town will appear in all forthcoming tabulations.

Really, it is not our fault that every municipality in the country is not represented in this important work, for time and again we have made systematic efforts to obtain the codes of all municipalities working under them.

We want to emphasize a certain use that we hope these tabulations may be put to. We hardly believe there is such a thing as a 100 per cent plumbing code—almost every one of them falls down at some particular point. That being so, why should not each municipal plumbing department see the opportunity through use of these tabulations to put its own practice on a better footing? In other words, if you note some practice

City	Use of Cleanouts on Horizontal Drainage Lines	Use of Cleanouts at Stack Intersections	Maximum Distance Between Cleanouts on Horizontal Lines	Size of Cleanouts on Drainage Lines	General Requirements in Use of Cleanouts
Massachusetts					
Barnstable	At each change in direction. Where house drain leaves building	At foot of each stack			Cleanout at front wall in run, with house drain out of branch.
Belmont	On house drain, just outside or inside cellar wall, with clear space of 2 to 4 ft.	At foot of each stack			2 C. O.'s on main trap. As required by inspector.
Brookline	Where house drain leaves building. At each 90-degree turn. At end of each line		As directed by inspector	4 ins. for 4-in. pipes and larger; smaller pipes same size as pipe	Cleanout at front wall in run, with house drain out of branch.
Concord	Where house drain leaves building. At each change in direction	At foot of each stack			A main C. O. for each building, outside all connections.
Everett	At each change in direction. Where house drain leaves building				1 C. O. for main trap. 1 C. O. on leader trap.
Falmouth	Where house drain leaves building. At each change in direction	At foot of each stack			Cleanout at front wall in run, with house drain out of branch.
Framingham	Where house drain leaves building. On each line of 10 ft. or more				Cleanout at front wall in run, with house drain out of branch.
Haverhill	At each change in direction	At foot of each stack	20 ft.		2 C. O.'s for main trap. On each sink waste. Cleanout at front wall in run, with house drain out of branch.
Holyoke	At each change in direction		20 ft.		Cleanout at front wall in run, with house drain out of branch. 1 C. O. for main trap.
Lowell	At each change in direction				Cleanout at front wall in run, with house drain out of branch. 2 C. O.'s for main trap.
Lynn	At each change in direction				Cleanout at front wall in run, with house drain out of branch. 2 C. O.'s for main trap.
New Bedford		At foot of each stack	30 ft.	Cleanouts full size up to 5 ins.	C. O. on cellar drain trap.
Newton	Where house drain leaves building. At each change in direction				1 C. O. on main trap. Cleanout at front wall in run, with house drain out of branch.
Pittsfield	3 C. O.'s on house drain at stack, house side of main trap, at cellar wall	At foot of each stack	35 ft.	4 ins. for 4-in. pipe and larger; smaller pipes same size as pipe	Cleanout at front wall in run, with house drain out of branch. A floor or wall fixture connection, bolted or screwed, considered a C. O.
Quincy	At each change in direction under cellar bottom. Where house drain leaves building				Cleanout at front wall in run, with house drain out of branch.
Revere	Where house drain leaves building				Cleanout at front wall in run, with house drain out of branch. 2 C. O.'s for main trap.
Salem	Where house drain leaves building				1 C. O. for main trap. Cleanout at front wall in run, with house drain out of branch.
Saugus	Where house drain leaves building				Cleanout at front wall in run, with house drain out of branch. 1 C. O. for main trap.
Springfield	Where house drain leaves building. On sink wastes over 5 ft.	At foot of each stack and rain leader	20 ft.	4 ins. for 4-in. pipe and larger; smaller pipes same size as pipe	Cleanout at front wall in run, with house drain out of branch. No C. O. allowed in coal bins.
Swampscott	At each change in direction. At end of each line		As directed		Cleanout at front wall in run, with house drain out of branch. 1 C. O. for main trap.
Waltham	At each change in direction. At end of each line				Cleanout at front wall in run, with house drain out of branch. 1 C. O. for main trap.
Woburn	As directed		As directed		Cleanout at front wall in run, with house drain out of branch.
Woods Hole	Where house drain leaves building. At each change in direction	At foot of each stack		4 ins. for 4-in. pipes and larger; smaller pipes same size as pipe	Cleanout at front wall in run, with house drain out of branch.
Worcester	At each 90-degree turn				1 C. O. on house side of main trap.
Michigan					
Battle Creek	In a fixture waste with over 2 90-degree turns. Where house drain leaves building. At end of each line. In all sink wastes over 5 ft. long	At foot of each stack, At foot of inside leader	40 ft., 25 ft. for sinks and laundry tubs	4 ins. for 4-in. pipes and larger; smaller pipes same size as pipe	An end C. O. shall have 15-in. clearance from any wall. No C. O. shall have a vent through it.
Bay City	At each 90-degree turn		25 ft.	4 ins. for 4-in. pipes and larger; smaller pipes same size as pipe	2 C. O.'s for main trap.
Birmingham	Where house drain leaves building. At end of each line. At each change in direction	At foot of each stack	25 ft.		1 C. O. for main trap.
Coldwater					No mention of C. O. in code.
Detroit	At end of each line. At each 90-degree turn	At foot of each stack. At foot of inside leader	25 ft.		1 C. O. for main trap. C. O. on rain leader trap. A floor or wall fixture connection, bolted or screwed, considered a C. O.
Flint	Where house drain leaves building. At each angle over 30 ft.	At foot of each stack. At foot of rain leader stack			C. O. in house sewer 2 ft. inside sidewalk line. C. O. in sink line over 4 ft. long.
Grand Rapids	Where house drain leaves building. At the lot line and every 50 ft. on house sewer	At foot of each stack	30 ft.		
Ironwood					No mention of C. O. in code.
Jackson	Where house drain leaves building. At each angle over 30 ft.	At foot of each rain leader stack			C. O. in sink line over 4 ft. long.
Kalamazoo	Where house drain leaves building. At each change in direction. At end of each line	At foot of each stack	30 ft.	Same size as pipe	C. O. on each sink waste.
Lansing	At each change in direction. At end of each line	At foot of each stack	30 ft.	4 ins. for 4-in. pipes and larger; smaller pipes same size as pipe	C. O. required on end of each line having more than 1 fixture attached on 1 floor.

that seems of special value, that is being followed in some other city, why not give it some study, why not make use of it if it is capable of doing your local practice some benefit?

Our study of plumbing codes leads us to the conclusion that often practices of questionable value are followed year after year as a sort of sacred duty, simply because past generations have put their O. K. on these practices. There has been a lot of improvement in plumbing practice since 1900, and probably even since 1927 or 1928. Why not make use of such improvements, just as you have done with your radio or your automobile?

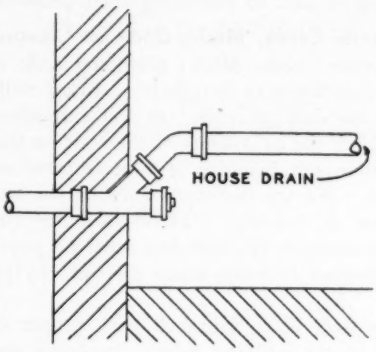


Fig. 2

Custom Has Strong Influence

It is interesting to note how this matter of custom is manifested in groups of towns or over entire states, even when those states have no state plumbing code.

Thus in Massachusetts a large number of cities and towns specify a certain connection at the front wall, for the house drain, which is not apparently the custom of the country except in scattering instances. We show this particular connection in Fig. 2, and think it an excellent one. When the house drain is run above the basement floor, such a connection is especially valuable, and when run below the cellar bottom it may also be used by building a pit or manhole around the cleanout to make it accessible. The method shown in Fig. 3 is a good one also, when the house drain is under the cellar bottom.

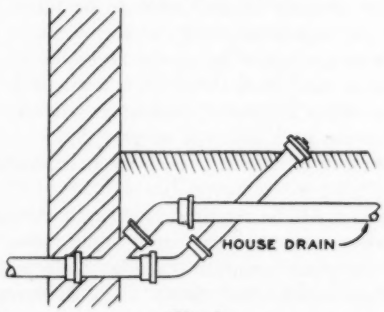


Fig. 3

The wording of the requirement for this type of connection varies with different codes. The Pittsfield code has a clear statement of house drain requirements, as follows: "There shall be at least 3 cleanouts in the house drain—one at or near the base of the stack, one on the house side of main branch, inside the wall near the connection between the house drain and the house sewer." This ordinance covers the cleanout situation for house drains when the main trap is employed.

Inasmuch as many cities and towns still call for a main trap on the house drain, and this generally involves the use of two or three cleanouts, it will be of value to show what some of the regulations are that cover the practice in detail.

Dunkirk, N. Y., has the following: "A trap must be placed on the house drain at an accessible point near the front of the house, or in the cellar on the main sewer side of all openings, and provided with proper full-sized brass screw cleanout plug; place on straight run of vertical 4-inch Y on the house side of the main trap, directly above the water-seal; side opening of Y to be used for fresh-air inlet. Where the house sewer enters the cellar, a Y-branch shall be provided; the end of same shall be reserved for cleanout purposes; said cleanout to be run within 6 inches of the surface of the finished floor, provided with full-size brass cleanout screw plug and suitable metal plate, flush with the floor. Where the main trap is placed outside of the cellar, a cleanout shall be provided on the street side of the main trap, same to be taken from the side opening of the Y-branch and carried full size to within one foot of the surface, at an angle of approximately forty-five degrees, and provided with suitable stopper; Y to be placed directly adjacent to the main trap; installation to be subject to the approval of the inspector of plumbing."

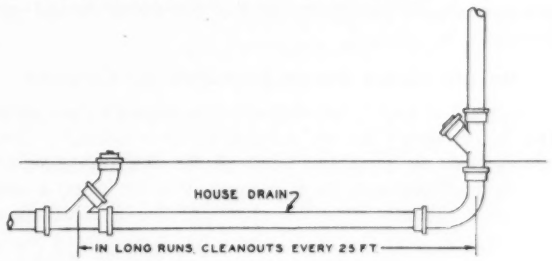


Fig. 4

We do not present the foregoing so much for the method as to show how the detail of such connections should be gone into. It is a fact that we find many codes stating their terms in such poor, inaccurate language that it is often impossible to know just what is intended.

Our study of plumbing codes shows conclusively that the main trap is gradually going out. Most of the codes therefore deal with the house drain cleanouts in about the following manner: "There shall be at least two cleanouts in the house drain,—one at or near the base of the stack and the other, with full-size Y-branch, inside the wall near the connection between the house drain and house sewer."

Some of the codes show illustrations of various details of practice, including the use of cleanouts. Schenectady, N. Y., for instance, shows a full-page illustration, giving four different typical front wall connections, such as those shown in Figs. 2 and 3.

Scarsdale, N. Y., shows in its code such an illustration as Fig. 4, which describes the method of installing

a cleanout at the foot of a stack, a cleanout on the house drain, and the distance between cleanouts on long horizontal runs. In our opinion, such illustrations are very valuable in clarifying the terms of the plumbing code, which are not always stated in the clearest terms.

We note in the Utica, N. Y., plumbing code the following regulation: "When wastes from sink lines or other fixtures are connected to conductor pipes, a Y with cleanout must be placed next to the connection and carried above basement floor." Inasmuch as conductors should never be used as soil, waste or vent pipes, such an ordinance as the foregoing would not generally be allowed.

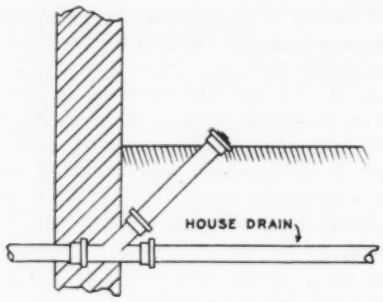


Fig. 5

Making House Sewer Accessible for Cleaning

In Figs. 2 and 3 we showed two methods that allow the house sewer to be accessible for cleaning. This seems to us an important phase of the cleanout question.

Scattered through the tabulations will be found a considerable number of codes that call for a cleanout at the point or near the point where the house drain leaves the building, to be installed in such a way that the run from the Y branch runs without change of direction to the cleanout. We show the idea of this in Fig. 5. Perhaps a more common method of connection is the one shown in Fig. 6. In our opinion, Fig. 5 is the best practice.

Springfield, Mass., has a common sense ordinance which forbids the placing of a cleanout in a coal bin or in a transformer vault.

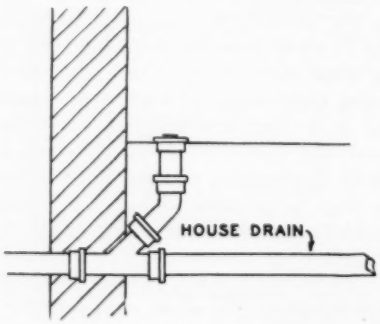


Fig. 6

It would be interesting to know how many thousands of cleanouts are located in coal bins. A more illogical location could hardly be conceived, and yet it is a most common offense.

A peculiarity of many New Jersey cities is that the use of cleanouts is required on house drains and branches from house drains, but without specifying any detail. This may possibly work out satisfactorily, but our own impression is that the practice would have certain disadvantages. For instance, with no more definite regulation, we would suppose that in competitive work little attention would be paid to providing such cleanouts.

Battle Creek, Mich., Code on Cleanouts

The Battle Creek, Mich., plumbing code covers the cleanout question very thoroughly. Many will doubtless feel that the code provides for too extensive a use of cleanouts, but the provisions of the code on this question are very thorough, bringing in some features seen in very few codes. We are therefore showing the Battle Creek regulations, as follows: "Hand-holes for cleaning out the house drain or its branches must be provided, with proper cleanout ferrules, made gas-tight by proper gaskets.

"There shall be a Y-branch with proper cleanout at the front of the building, where the house sewer enters the building, but by special permit may be left 6 ft. back from the front wall if the house drain continues on the same line and grade as the house sewer.

"In case of cesspool and septic tank jobs, the cleanout may be left back 12 ft. from the wall where the house drain enters the building.

"At the foot of each vertical soil or waste pipe or stack, a cleanout must be placed above where the branch enters the horizontal drain, unless there is one on a direct line not more than 10 ft. above the base angle.

"All traps, except water closet traps, shall be provided with proper cleanouts.

"No pipe in a building shall run over 40 ft. horizontally without a Y-branch or other approved cleanout, except 2-inch waste or drain pipes for kitchen sinks and laundry tubs, which must not be run over 15 ft. without a cleanout.

"There shall be a cleanout at the end of every horizontal run.

"A cleanout will be required in all horizontal, cast iron sink wastes when more than 5 ft. in length, unless the waste has a fall of 45 degrees or more from the horizontal; the distance in each case to be taken from the center of the trap to the outlet of the waste.

"All cleanouts must be easily accessible, and where a cleanout is used in the end of a horizontal line there shall be at least 15 inches clearance between the cover of the cleanout and any wall or partition.

"No cleanout cover shall have a vent running through it.

"A cleanout will be required in every horizontal fixture waste having more than two right angle turns."

In the foregoing, mention is made of placing cleanouts in pits when under cellar floors. The Minneapolis code gives definite instructions on this practice, as follows: "Wherever a cleanout is placed below the top of the cellar floor, there shall be provided a box of sufficient depth and of a size at least 14 inches by 16 inches for such cleanout, said box to be so placed as to admit of ready access to such cleanout. Provided, however, that if the distance from the top of the cleanout to the top of the cellar floor exceeds 2 ft., a brick or concrete man-hole at least 3 ft. in diameter shall be provided instead of the box above provided for."

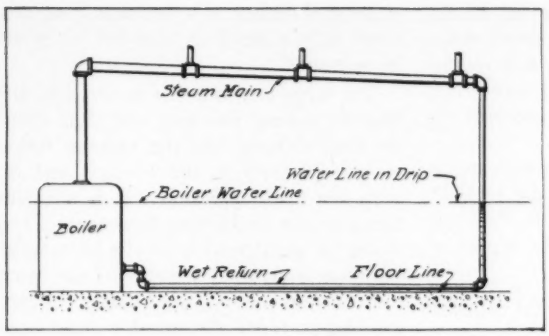
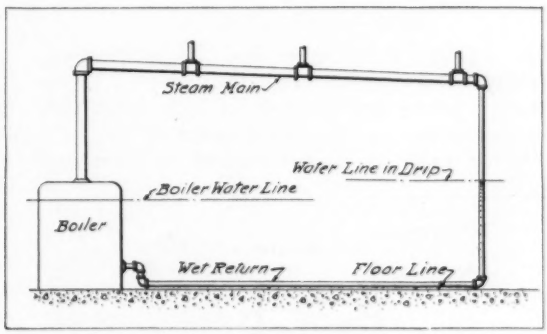


Fig. 1

Fig. 2



By H. L. ALT

Condensation

a discussion of the different methods of removing water from steam line and returning it to the boiler

THERE are certain conditions which must be secured with every steam system before it will operate properly, and two of the most important of these are the relief of air and the removal of condensation. Leaving the matter of air for future consideration, this article will be devoted to the subject of condensation.

In the ordinary gravity steam system with a wet return it is possible to draw the water out of the steam main by the very simple expedient of connecting drip pipes from the bottom of the steam line into the wet return under the water line, the water in the wet return forming an effectual seal against short circuiting, and taking care of any drop in pressure which may occur in the steam by a slight difference in the height of water carried in the drip pipe.

In fact, the water line of a wet return will not be level when the boiler is generating steam but it will be level when no steam is being produced. The conditions which exist when the system is cold are illustrated in Fig. 1, but these conditions will be altered when the system is hot to somewhat resemble what is shown in Fig. 2. Of course the conditions illustrated in Fig. 2 will not be exactly duplicated in any particular system, but the general principle will be found to exist, and the reason for the difference in water line is that when the system is cold the pressure on top of the water in the boiler and on top of the water in each drip connection is only the atmospheric pressure and the same in all cases.

This results in a balanced condition and the water in the system will find its own level, which level will be the water line of the boiler. Thus, the conditions, shown in Fig. 1, are explained.

As soon as a steam pressure is generated by the boiler and the steam flows out along the main a new set of conditions develops due to the fact that there is a constant drop in steam pressure, which drop increases, as the distance from the boiler grows more and more, until the end of the steam main is reached where the drop is the greatest.

It will be seen that the conditions which formerly existed in Fig. 1, now, no longer exist; instead of an equal atmospheric pressure being exerted on the top of the water in the boiler and throughout the system an unequal steam pressure takes its place.

As a result of this varying steam pressure, the water in the system has the greatest pressure exerted on its surface in the boiler where the steam pressure is highest and the least pressure exerted on its surface at the end of the main where the steam pressure is least and, therefore, will rise at the end of the main as shown in Fig. 2. Intermediate drip points, if any, will have the water line fall between these two extremes.

A natural result of this variation in pressure is that where the steam pressure pushes down on the surface of the water the heaviest, the water drops and backs up

into the places where the steam pressure exerted on its surface is less. The water at the end of the steam main will then stand higher in the return than it will in the boiler, and this amount can be computed at any point desired by dividing the drop of pressure in pounds by 0.43.

That is to say, if the drop in the main pressure, at a point where a certain drip is taken off, should be 0.43 lb., then the rise in the height of the water in the drip above the height of the water line in the boiler would be

$$0.43 \text{ lb.} \div 0.43 = 1 \text{ ft.}$$

Should a steam main be designed with a total drop of 1.29 lb. between the boiler and the end of the main, it will be seen that the end of the main would have to be

$$1.29 \text{ lb.} \div 0.43 = 3 \text{ ft.}$$

above the nominal boiler water line. It is generally customary to add at least 6 inches to the theoretical figure computed for safety and to allow for high water line, errors in calculation, and other contingencies.

In dripping mains on vacuum systems no water line

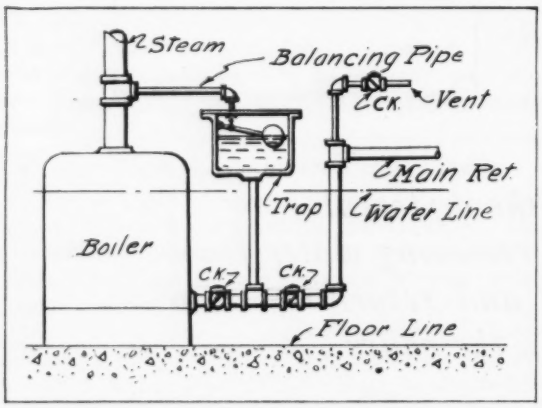


Fig. 3

exists to worry about. The vacuum system return—as its name implies—is kept under a vacuum and has only a small amount of water running along the invert of the pipe and each drip must have a thermostatic trap so as to permit only air and water to pass into the vacuum return line but which will close when the water is drained out and steam strikes the thermostatic element.

Radiators

Condensation from gravity steam radiators simply flows back to the steam or return main. In a one-pipe system it goes back down the steam pipe and into the steam main, where it is taken care of along with the condensation occurring in the main. In the two-pipe gravity steam job—now considered as practically obsolete—it was taken care of by a separate return pipe run down and connected with the gravity return main.

In vacuum systems a separate return line is always used and traps are placed on the return end of each radiator to prevent steam getting into the return line and spoiling the vacuum.

Indirect Air Heaters

On indirect air heaters it has been found an economy in most cases to use what is termed a blast trap, which, in general design, is a common float trap. Some of these traps have a small by-pass for air which is thermostatic in operation.

The large quantities of water pass directly through the trap by raising the float and thus opening the outlet of the trap directly into the vacuum return main. All the air passes through the by-pass and does not interfere with the float operation. It is also desirable at certain times to put individual thermostatic traps on the return outlet of each portion of the heater so as to relieve the air from individual sections of the heater or from whatever section may be air bound. When this is done the discharges from all such air traps are hooked together and this common return is carried over and is connected to the main return on the discharge side of the blast trap.

Returning Condensation to Boiler

Having eliminated the condensation from the steam line, the next point to consider is getting it back to the boiler, and this may be accomplished in a variety of ways. Of course a gravity return without the use of any special device is the ideal proposition when conditions permit. There are several features which must be met, however, before this can be done. One of these is that the heating system must be a gravity steam or vapor system; another is that all radiation must be considerably above the level of the steam boiler water line to prevent being flooded with water.

Radiation Below Water Line

When radiation is located below the water line of a steam boiler or so close to the water line that it will be flooded, special means will have to be taken to drain the radiation and steam main and to return the condensation to the boiler.

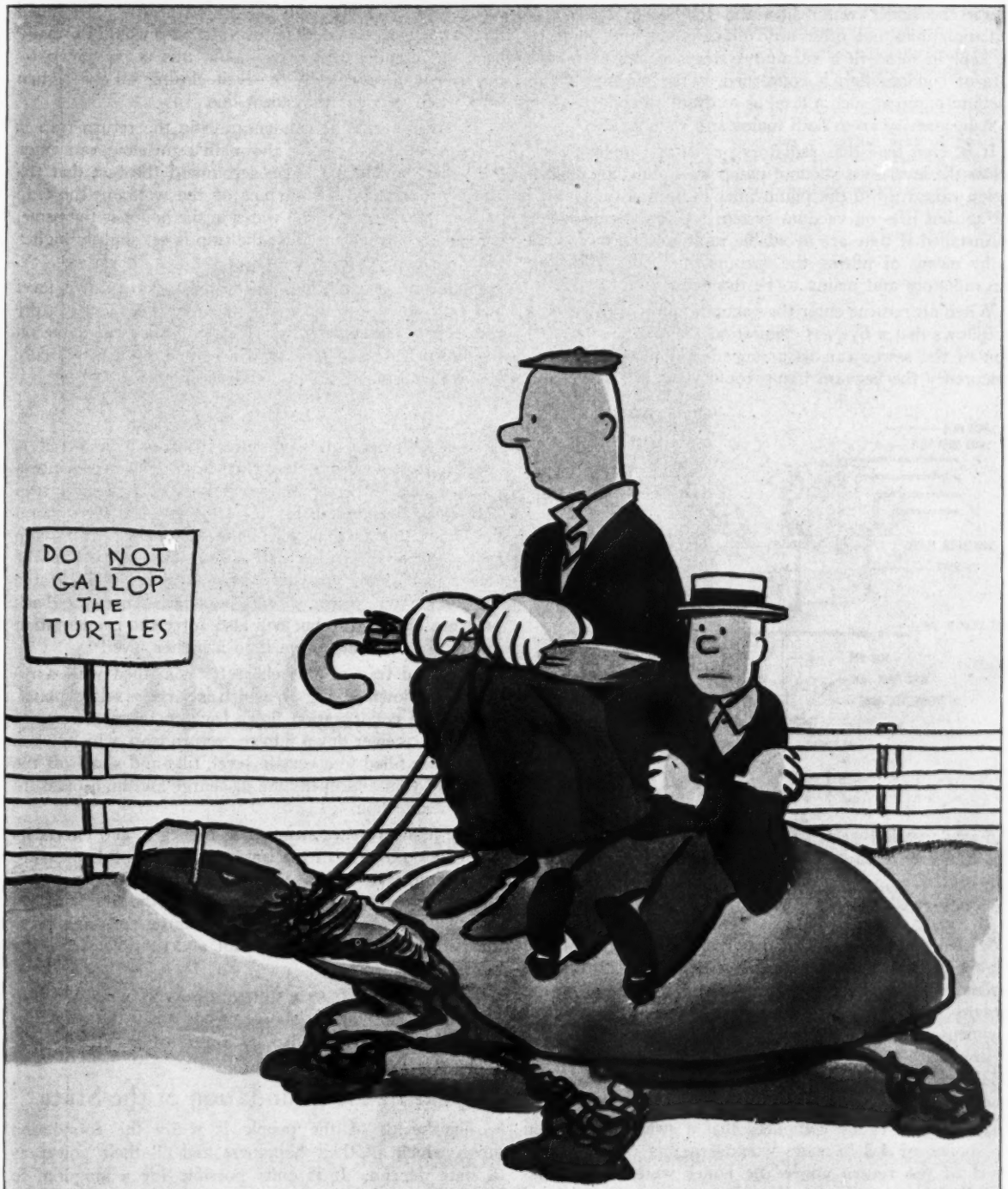
Assuming that a gravity steam system is being considered, this is usually done by means of an automatic receiver-return pump. These pumps are simply tanks in which the condensation collects until a sufficient amount of water accumulates so as to raise a float inside of the tank. This float controls the motor on a pump set below the tank, and as soon as the float rises the motor starts the pump and pumps water back into the boiler against the boiler pressure until the float drops a sufficient amount to cut off the motor, at which time the pump stops operation until more water collects and the float is again lifted.

These pumps are made in single pump arrangement and in double pump arrangement. The object of having two pumps is to have a spare or stand-by pump in case one pump goes out of commission or needs repairing at any time.

Where high pressure steam is available all the time, or part of the time, it is often advantageous to install a combination steam and electric double automatic "receiver-return pump," which simply means that one of the pumps is the normal electric driven unit and the other steam driven.

This gives the advantage of operating on steam when high pressure is available and running on the electric pump at night or when no high pressure steam can be obtained, with a corresponding reduction of electric current consumption when the steam pump is in operation.

Where vacuum systems are installed the relation be-



Albert: This animal is more than three hundred years old, the man says. Still going strong, ain't he, Willie?

Willie: Sure. Going on forever, I guess—just like one of those Hays Double Seal Connections!

tween the boiler water line and the steam main and radiation does not offer any difficulty, as the point to be kept in mind in a vacuum system, as far as taking care of condensation is concerned, is the placing of the vacuum pump at such a level as to drain all condensation to it by gravity from both mains and radiators.

It is even true that radiators or mains can be placed below the level of a vacuum pump inlet and the condensation raised up to the pump inlet by means of a "lift" fitting, but lifts on vacuum system returns should never be installed if they are avoidable in any other way, such as by means of pitting the vacuum pump or by raising the radiators and mains to be drained.

When all returns enter the vacuum pump without lifts it follows that a by-pass connection from the pump suction to the sewer can be arranged and that in case of emergency the vacuum pump could be closed down and

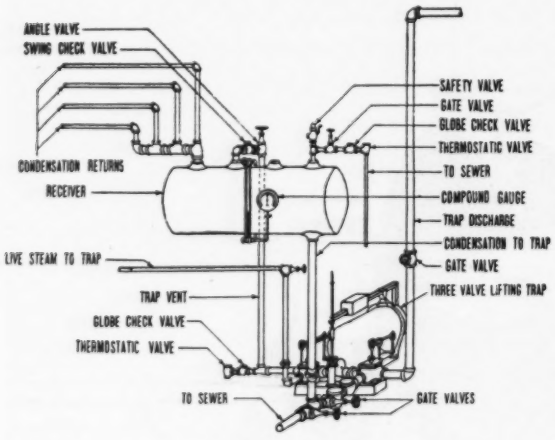


Fig. 4

the condensation wasted to the sewer in case of a breakdown at any time or a failure by electric current.

Vapor System Return Traps

In vapor systems where the return is open to the outside atmosphere it is plain that the water level will rise higher in the return (for a given steam pressure in the boiler) than in a gravity steam system. Whereas, in the gravity system, the rise in the return is only enough to compensate for the *pressure drop in the main*, in a vapor system with the return open to the atmosphere the rise of the return must be enough to *counterbalance the entire boiler pressure.*

It may be readily computed that a steam pressure in the boiler of 4.3 lb. gage would—in this case—lift the level of the return above the boiler water line a distance of

$$4.3 \text{ lb.} \div 0.43 = 10 \text{ ft.}$$

Jobs where such a rise could be accommodated are not many, and so to overcome this difficulty several different designs of automatic receiver-return traps have been put on the market. Nearly all of these traps operate on the basic principle that an increase in boiler pressure will result in the condensation being forced back into the receiver of the trap.

When this receiver is partially filled with water a float is lifted which admits boiler steam pressure to the top of the trap. This is illustrated in Fig. 3. When this happens the condensation in the trap would normally back up into the return main, but this is prevented by the use of checks or by the float closing off the return inlet when it opens the steam line.

In either event the condensation in the return trap is not permitted to re-enter the main return but can enter the boiler, which it does on account of the fact that the steam pressure on the surface of the water in the trap and on the surface of the water in the boiler is the same, combined with the fact that the trap is set slightly higher than the boiler water line.

Under these conditions the water seeks its own level and falls down into the boiler until the water level in the trap is lowered sufficiently to close off the float valve on the steam balancing pipe, at which time the trap is ready for a repetition of the cycle of operation.

The Lift Trap

In cases where high pressure steam is available it is possible to have the returns raised and discharged into a receiver at a higher level by using a special type of trap known as the three-valve or lift trap. Along general principles this trap parallels the automatic return trap just described, except that, when the trap opens the steam pipe, high pressure steam is delivered into the trap, and this will not only counterbalance the back pressure on the trap but will also force the condensation out of the trap and drive it to a higher level.

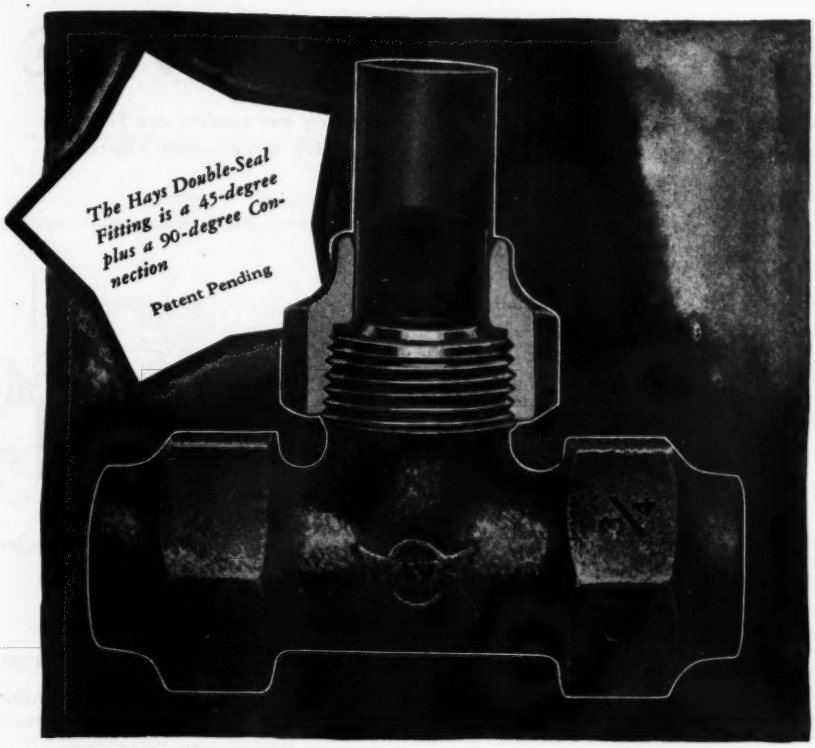
A typical trap of this character combined with a receiver is shown in Fig. 4, which is largely self-explanatory. The condensation flows back to the receiver and from the receiver down into the return trap, which, when it becomes filled to a certain level, tilts and shuts off the inlet and vent and opens the discharge and high pressure steam connection.

The high pressure steam then rushes in and exerts its pressure on the top of the water in the trap, this pressure being sufficient to drive the controls of the trap out through the discharge pipe. As soon as the trap is nearly empty it tilts back, closing the discharge and high pressure steam and opening the vent and the inlet from the receiver.

The receiver acts as a storage reservoir while the trap is operating or during short periods when the trap may be temporarily overloaded by a slug of water.

Health, the Foundation of the State

The health of the people is really the foundation upon which all their happiness and all their power as a state depend. It is quite possible for a kingdom to be inhabited by an able and active population; you may have successful manufactures and you may have a productive agriculture; the arts may flourish, architecture may cover your land with temples and palaces, you may have even material power to defend and support all these acquisitions, you may have arms of precision, but if the population of the country is stationary or yearly diminishing—if, while it diminishes in number it diminishes also in stature, in strength, that country is doomed. The health of the people is, in my opinion, the first duty of a statesman.—*Benjamin Disraeli.*



★ Exclusive with Hays—this double seal provides double strength, safety and ease of installation.

The 45-degree seat of the fitting holds the pipe in a wedge, making a seal that is absolutely tight.

The 90-degree seat is the shock absorber. It (1) locks the pipe, (2) provides a second seal of positive tightness and (3) protects the 45-degree seal by absorbing all pulling strains and vibration.

LONG LIFE

. . . . . THAT'S THE HAYS DOUBLE SEAL CONNECTION

THERE'S certainly satisfaction in doing a plumbing job that you know will continue to keep the owner satisfied. And that's the kind of job the Hays Copper Plumbing Method, employing the Hays Double Seal Connection, lets you do every time. Just one look at a Hays Double Seal Connection and you see why it has such a long, leakproof, troubleproof career. It doesn't pull, work or shake loose. Pulls, strains and vibrations will not effect the tightness of the connection. The double-angled flange, simple as it is, is the secret of its strength . . . And, of course, there's satisfaction, too, in doing a good job that is economical at the same time.

Progressive plumbers are welcoming the newly aroused public interest in copper plumbing . . . There are certain facts about the Hays Method which we believe you will be interested in—may we send them to you?

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HAYS MANUFACTURING COMPANY . ERIE, PA.

RETAIL ADVERTISING SERVICE

Here is copy for two newspaper advertisements and a sales letter which our readers are free to use without charge. The cuts, if you want them, are sent you for twelve weeks—two new cuts every other week—for $4.20.

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DO you get the fullest benefit from your night's sleep; are you tired and unrested when you get up in the morning? If so, you will find a simple and pleasant remedy in the shower bath. Take a warm shower before you retire at night and sleep will come easier; your rest will be fuller and more satisfying. Or, if you find yourself sleepy and listless in the morning, try a cool, invigorating shower. It will stimulate both your mind and body; you will work more efficiently and enjoy it.

(In this space your Name, Telephone Number and Address)

NEWSPAPER AD No. 72

ANOTHER BIG PROBLEM SOLVED

"The problem of getting children to bathe without having to follow them through the entire process, has been solved," says Harry Brown, local plumbing and heating contractor.

"It has been solved by the shower bath. Children who must be driven to a tub bath will make a wild and enthusiastic scramble for the shower; they find it much more fun to feel the forceful spray of water on their young bodies than to dawdle in a tub with a sponge.

"There is no doubt about it, if you want your children to get the bathing habit early, a shower is the thing."

SALES LETTER

No. 32

HARRY BROWN

PLUMBING & HEATING

Two Rivers, N. Y.
March 22, 1930.

Mr. Edward Jones,
Two Rivers, N. Y.

Dear Sir:

Does your home need a shower, or have you been wise and attended to that long ago? If you have not, then don't deprive yourself any longer. How much more simple it is to turn on the shower and step beneath the spray; no waiting for the tub to fill, nor the nuisance of having to test the temperature frequently to see whether you have the water too hot or too cold — only to get in the tub and discover with a shock that you have made it too hot after all.

The shower is quicker, cleaner and more healthful. You step from beneath its stimulating deluge a new and different person. A warm shower at night brings restful sleep and new energy; a cooling shower before you begin the day's work and your body is enlivened; muscles and nerves are awakened to a new glow.

Very truly yours,

Harry Brown

HERE are two newspaper publicity items —clip them and hand them to your local paper. They represent valuable sales help.

How Often Does the Coal Truck Come?

EVERY time the coal truck appears at your home, it makes another dent in your pocket-book. If your heating plant is always calling for more fuel, you may be sure that something is wrong, in which case, your heating system should be inspected, the trouble found and corrected. That is a far more economical procedure than spending extra money for fuel, without, still, obtaining efficient heating performance. Call (insert telephone number) for prompt attention.

(In this space your Name, Telephone Number and Address)

NEWSPAPER AD No. 73

WHEN EFFICIENCY IS FORGOTTEN

"With all our talk of efficiency and organization in this machine age," remarked Harry Brown, local plumbing and heating contractor, "we are just the opposite much of the time, after all.

"We are all inclined to let many things go until the last minute: we wait almost until the last day to do our Christmas shopping or file our income tax; we let a shoe wear too long before we have it repaired; we let a cough become a bad cold and a cold become an attack of flu. We let the heating system acquire internal disorders, but we only say unkind words about it, and forget the matter."

Copy for an Educational Leaflet

Copy A

(In this space your Name, Telephone Number and Address)

AT the left we show layout for one of the educational leaflets in the series being published on this page. The copy is below. All you have to do is show copy and give the cut to your local printer—he can make it up in just the size shown, to be kept in your sales room and enclosed in letters. The copy can be used on a blotter, also. (35c for the cut.)

Copy "A"
for the Educational Leaflet

What Economy In Heating Means

ECONOMY in heating means that your home is being warmed at the minimum fuel cost. It means that your heating plant is performing to the highest degree of efficiency.

It is not economy when your heating system is allowed to develop organic ailments: it is extravagance. When fuel costs mount; when your home is not warmed to an even temperature in each room, then you may be sure that all is not well. But, how much cheaper it would be to have your heating plant periodically inspected and kept in efficient working order, without waiting until a complete breakdown occurs.

If you are tired of paying high heating costs consult us and let the pendulum swing back to economy.

Copy for an Envelope Stuffer

(To be set up by your printer just as shown here and sent with monthly statements, sales letters, and all other correspondence addressed to customers.)

The Emblem of Service and Dependability

When the stamp of our approval has been placed upon a plumbing or heating installation or a repair job, you may rest assured that you will receive the highest degree of satisfaction. Our years of experience are at your command in the solution of your plumbing and heating problems. We are always ready to study your needs and advise you—with no obligation on your part. Our aim is to furnish competent, prompt and reliable service. Keep our telephone number before you.

(Your name, telephone number and address here)

Underheated Rooms

Curves to be used in determining additional radiation necessary

By H. T. HALL

IT FREQUENTLY happens that it is desired to know if a room has sufficient radiation to maintain 70 deg. Fahr. inside with an outside temperature of zero at a time when the outside temperature is *not* zero and has no immediate prospect of going anywhere near to that level.

Such questions often arise in regard to temperature guarantees and in connection with complaints made by occupants that the radiation is not sufficient to keep them comfortably warm when the condition of zero weather is obtained. Inability to disprove such statements often leaves the contractor and engineer in an embarrassing position as one person's prophecy is often as good as another's when the actual conditions under which the heating system would have to operate at its maximum are impossible to obtain.

There is also another angle to the matter which consists of knowing how much surface it is necessary to add when the room is admittedly cold but when zero weather is not handy for a test. Of course it is possible to figure and recalculate the theoretical surface required, and then to compare this to that amount which is already installed, from which a probable amount of addition can be obtained. However, there often are special conditions which may affect the actual amount of radiation required over that shown by the theoretical figures; in the case where an insufficient amount of radiation is already functioning it is possible to determine the additional amount of surface which, when functioning under the same conditions but with the outside temperature at zero, will give a room temperature of 70 degrees Fahr.

Steam

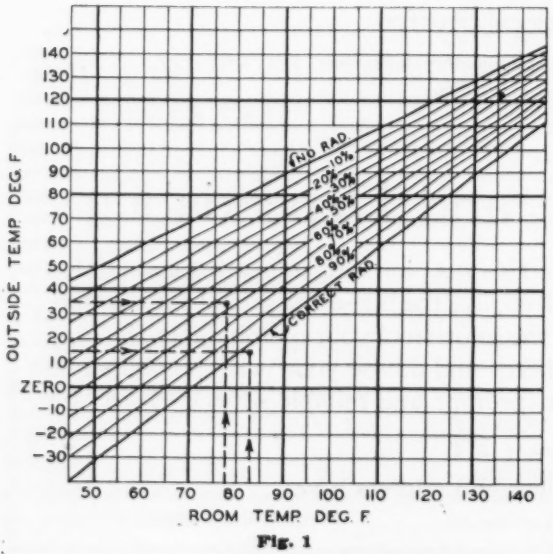


Fig. 1

Formulae

If the following symbols are used to represent the quantities noted, a formula may be worked up for ascertaining the inside temperature which will be attained for any given outside temperature if the radiation is sufficient to maintain 70 deg. Fahr. inside with the outside temperature at zero. Let

"TI" equal the temperature which must be maintained inside when the outside temperature is at the minimum for which the heating system is designed.

"TO" equal the minimum outside temperature for which the heating system is designed.

"ti" equal the temperature actually attained in the building at the time the test is made.

"to" equal the temperature existing outside at the time the test is made.

"H" equal the heat loss from the building per degree F., difference in temperature between the inside and outside.

"P" equal the temperature of the steam in the radiator at the pressure for which the system was designed.

The heat radiated from the building may be represented by the formula

$$H\ (TI - TO) \qquad (1)$$

if the outside temperature is at the minimum for which the heating system was designed. If, however, the test is made at some other outside temperature the formula will become

$$H\ (ti - to) \qquad (2)$$

Now, if "k" represents the co-efficient of transmission from the radiators per degree difference between the room temperature and the steam temperature, the heat emitted by the radiators when the room temperature is "TI" would be

$$k\ (P - TI) \qquad (3)$$

while the heat emitted under the conditions existing at the time of the test and when the room temperature was "ti" would be

$$k\ (P - ti) \qquad (4)$$

If the heating surface is sufficient it is evident that

(1) must equal (3)

and

(2) must equal (4)

or

$$H\ (TI - TO) \text{ equals } k\ (P - TI) \qquad (5)$$

and

$$H\ (ti - to) \text{ equals } k\ (P - ti) \qquad (6)$$

Now equation (5) may be transposed to

$$H \text{ equals } \frac{k\ (P - TI)}{TI - TO} \qquad (7)$$

and equation (6) may be transposed to

$$H \text{ equals } \frac{k\ (P - ti)}{ti - to} \qquad (8)$$

while, if the right hand half of both of these expressions is equal to H, the expressions must be equal to each other, thus:

$$\frac{k\ (P-TI)}{TI-TO} \text{ equals } \frac{k\ (P-ti)}{ti-to} \quad (9)$$

in which "k" may be cancelled out as it occurs on both sides; then if a heating system based on a zero to 70 degrees temperature rise is assumed as well as a maximum steam pressure of 4 to 5 pounds (or a temperature of 228 degrees F.), substitutions may be made to reduce the expression down to

"ti" equals 0.695 x "to" plus 70° F. (10)

Steam Radiators

This means that if sufficient radiation is installed the inside temperature must reach a temperature equal to

70° plus 0.695 × outside temperature (11)

For example:

If a room can be made to reach 90° F., with an outside temperature of 40° F., is the radiation sufficient to carry 70° F., in the room when the outside temperature is zero?

40° × 0.695 plus 70° equals the room temperature under terms of the problem. Solving, it is found that 40 × 0.695 equals 27.8° which added to 70° gives 97.8° as the resulting room temperature if the radiation is adequate. Therefore the radiation in this case is insufficient. But supposing that another room tests out to 90° F., when the outside temperature is 30°F. Then 30 × 0.695 plus 70° equals 20.85° plus 70°, or 90.85°, which is practically what the room actually gives within a fraction of a degree. So this radiation might be considered as adequate.

Now it would be very interesting in the case where the room showed a shortage in radiation to know just how much it is short. Suppose it was desired to add sufficient surface to bring the room up to the required temperature; how much should be added? For this purpose the curves shown in Fig. 1 have been prepared, the only difference being that these curves are based on a maximum steam pressure of 2 lb. per sq. in., instead of 5 lb. The formula for 2 lb. per sq. in. steam pressure works out to

70.5° plus 0.68 × outside temperature (11A)

Referring to the curves shown in Fig. 1, and taking the room which showed 90° F., when the outside temperature was 40° F., the room temperature is found along the bottom scale and the outside temperature on the vertical scale at the left as noted on the diagram. From the figure "90" on the bottom scale follow the heavy line up vertically toward the top until it intersects the heavy horizontal line running from left to right opposite the "40" on the vertical scale. It will be seen that these two lines intersect at a point midway between the diagonal lines marked 80% and 90%, indicating that only about 85% of the required radiation is installed. If the radiation installed constitutes only 85% of that required to give the temperature rise desired, then the number of feet of radiation must be divided by 85% to find out what amount is really necessary.

If "R" represents the radiation *required* and "A" the *actual* radiation installed, the amount to be added is obtained from the formula

Additional Radiation equals R — A (12)

or

Additional Radiation equals (A/85%) — A (13)

In cases where the temperatures do not come out on the heavy lines it is necessary, of course, to interpolate. One or two brief cases will illustrate. For instance, a room gives 82½° F., when the outside temperature is 15° F. Is the radiation sufficient? Follow the dotted line up from 82½° on the bottom scale until it intersects the horizontal line from 15° at the point marked with the dot. As this point falls below the 100% or "Correct Radiation" line, the radiation is more than enough.

If a room shows 77½° F. with an outside temperature of 35° F., is there enough radiation to maintain 70° F. if the outside temperature goes to zero? Following the dotted line up from 77½° on the bottom scale, it is found to intersect with a horizontal line from 35° at the left at the point shown by the dot, this being located

Hot Water

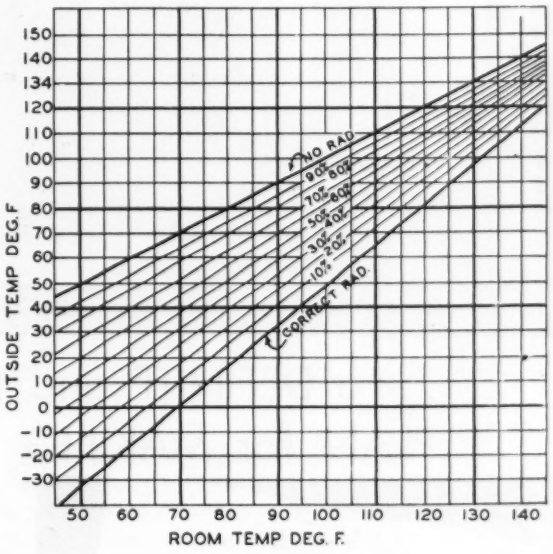


Fig. 2

about midway between the diagonal lines of 60% and 70%, showing that only about 65% of the radiation required is actually installed.

Hot Water Radiators

The same formula may be applied to cases where the heating is hot water instead of steam simply by substituting the temperature of the hot water instead of the temperature of the steam in the formula. Formula (9) then becomes, after cancelling out "k," as follows:

$$\frac{P-TI}{TI-TO} \text{ equals } \frac{P-ti}{ti-to} \quad (14)$$

and substituting as before, except that "P" is taken as 180° F. for hot water, the equation may be reduced down to

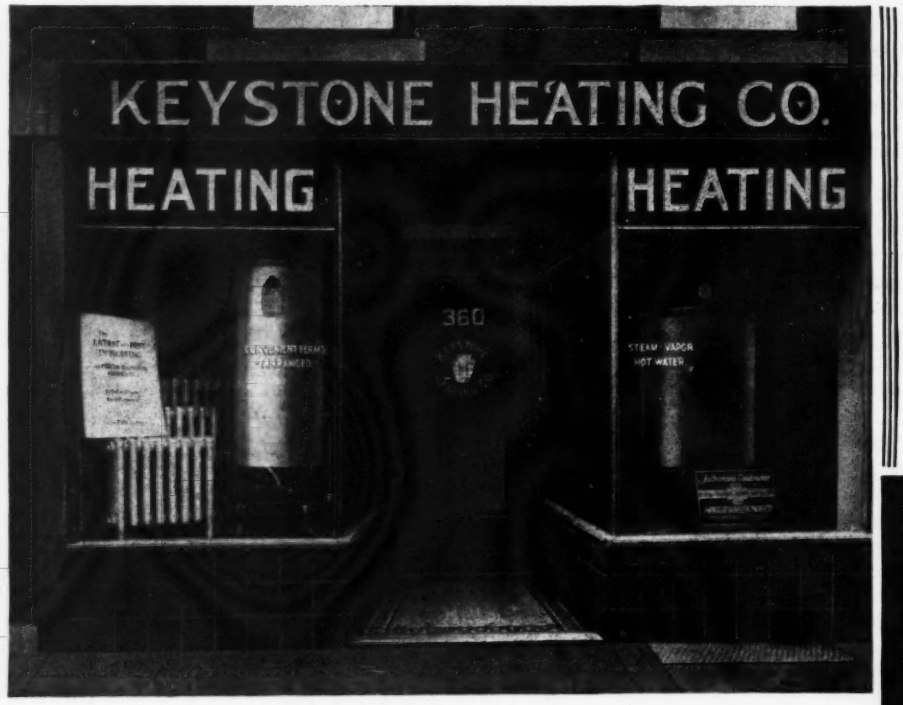
"ti" equals 70 plus 0.612 × "to" (15)

and from this formula the curves shown in Fig. 2 have been plotted.

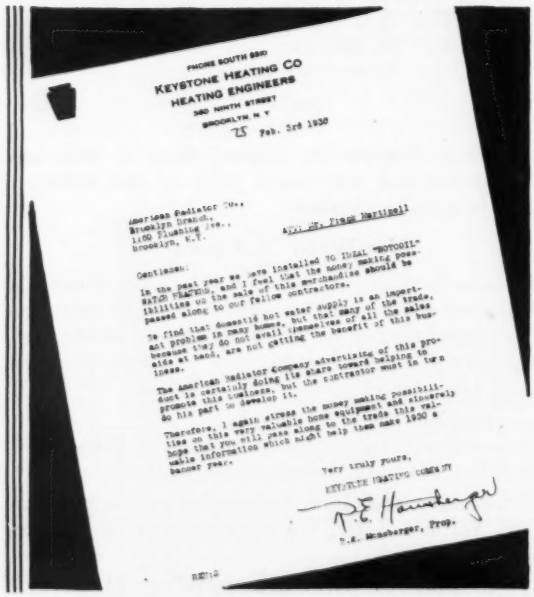
At first thought it might seem that *proportionally* the same curves could be used for both steam and hot water. That is to say, that hot water surface being approxi-

(Continued on Page 150)

"HERE'S how I made ADDED PROFIT"



. . . a DEFINITE and PROVEN PLAN for MAKING MONEY



PHONE SOUTH 8800
KEYSTONE HEATING CO
HEATING ENGINEERS
380 NINTH STREET
BROOKLYN, N. Y.

25 Feb. 3rd 1930

American Radiator Co.,
Brooklyn Branch,
1100 Flushing Ave.,
Brooklyn, N.Y.

Attn: Mr. Frank Merrill

Gentlemen:

In the past year we were installed 70 ideal "BOYCOIL" HATCH FEATURE, and I feel that the money making possibilities go hand in hand with the merchandise should be passed along to our fellow contractors.

We find that domestic hot water supply is an important problem in many homes, but that many of the sales because they do not avail themselves of all the helps at hand, are not getting the benefit of this business.

The American Radiator Company advertising of this product is certainly doing its share toward helping to promote this business, but the contractor must in turn do his part to develop it.

Therefore, I again stress the money making possibilities on this very valuable home equipment and sincerely hope that you will pass along to the trade this valuable information which might help them make 1930 a banner year.

Very truly yours,
KEYSTONE HEATING COMPANY
R.E. Honsberger
R.E. Honsberger, Prop.

RE:lc

"EVERY heating dealer can add to his profits by following the resale profit plan," says R. E. Honsberger, proprietor of the Keystone Heating Company, Brooklyn. And Mr. Honsberger points to the added profit he made in 1929 by using the selling aids furnished by the American Radiator Company.

"It is surprising how quickly sales can be made when you have a plan and use it. Not only does it bring you actual customers but points the way for other sales, too. And this year we are taking full advantage of every sales aid offered to continue increasing our business."

Your American Radiator Salesman has a complete plan for helping you put into immediate effect this practical way of making additional profits. Ask him to explain it in detail. If you are anxious to get started before he calls, just write or call your branch.

AMERICAN RADIATOR COMPANY

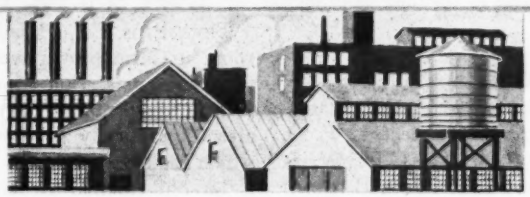
40 WEST 40th STREET, NEW YORK

Division of

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

SUPPLY NEWS

AMONG MANUFACTURERS, WHOLESALERS AND SALESMEN



National Pipe and Supplies Association Changes Dates for Convention

The National Pipe and Supplies Association has changed the dates for its annual convention to May 12, 13 and 14, according to word just received from C. F. Harvey of A. Harvey's Sons' Mfg. Co., Detroit, Mich., president of the association. The convention will be held at Pinehurst, N. C., and headquarters will be at the Carolina hotel. It was previously planned to hold this year's convention on May 5, 6 and 7. In commenting on plans for the meeting, President Harvey said in part:

"It seems fitting that the keynote of the convention program should be, and is, the general subject of merchandising, because the leaders in the three branches of the industry—manufacturer, distributor and retailer—are fully awake to the need of some constructive effort to accomplish a greater flow of materials to the consumer. This realization is brought about partly due to economic pressure, but I think it is also recognized that competition, both in our own lines, as well as others, is leading the way, and there is only one method of meeting competition of this type, the answer being to 'out-merchandise' the other fellow.

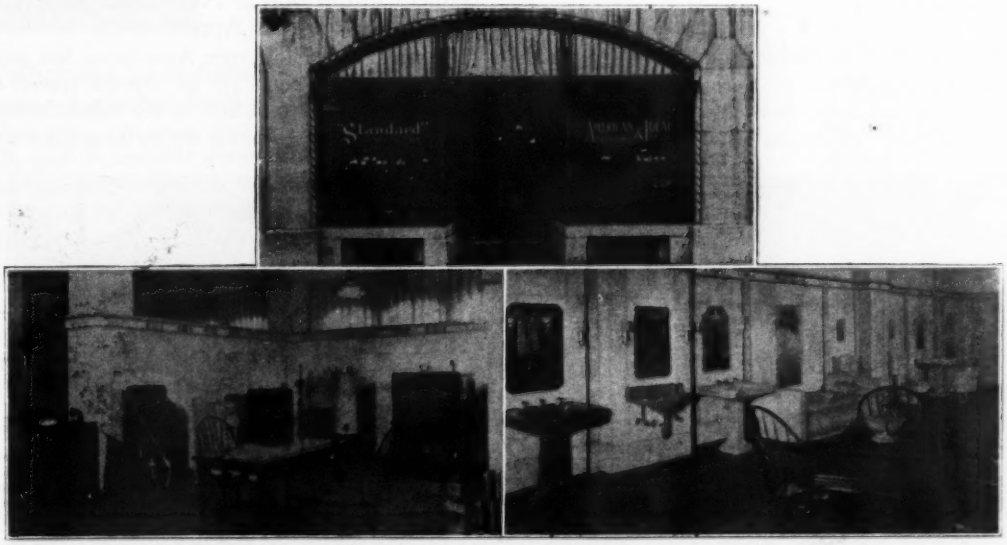
"The convention program as tentatively arranged, should prove of interest and value to the distributors. It is planned to hold convention sessions in the morning only, reserving the afternoons of all three days for recreation and association of distributors and manufacturers.

"This time of year in Pinehurst finds this famous resort in its most beautiful attire, and we are hoping for a record attendance, and will welcome representatives from all branches of the industry who care to take advantage of the opportunity."

◆

Noland Co. Opens Chattanooga Branch

The Noland Co., Inc., Newport News, Va., has leased the building at 115 Market street, Chattanooga, Tenn., where headquarters for the Chattanooga district have been established. W. J. Eckerly, formerly of Washington, D. C., has been made local manager.



Views of the first combined American Radiator & Standard Sanitary Corp. showroom opened recently in Buffalo, N. Y.

Mott-Southern Co. Becomes Horne-Wilson, Inc.

Horne-Wilson, Inc., is the new name of the company formerly known as the Mott-Southern Co. of Atlanta, Ga. The new firm will be headed by J. B. Horne and C. B. Wilson, who were identified with the old company.

The Mott-Southern Co. was organized in 1919 with a single unit in Atlanta, but has established branches in Charlotte, N. C., Knoxville, Tenn., Jacksonville, Miami and Tampa, Fla.

Horne-Wilson, Inc., will maintain the same personnel and management, and will continue to operate its branch houses as hitherto.

◆

Scovill Mfg. Co. Elects Directors

At a recent meeting of the Scovill Mfg. Co., Watertown, Conn., the following directors were elected: E. O. Goss, J. H. Goss, L. P. Sperry, C. P. Goss, Jr., W. S. Fulton, G. A. Goss, R. S. Sperry, J. P. Elton, B. Bronson, W. M. Goss, H. L. Scovill, W. T. Hunter, Jr., and F. T. Ward. W. W. Bowers remains as assistant secretary of the company and sales manager of the Plumbers' Brass Goods Division.

◆

Revere Copper & Brass, Inc., Opens Philadelphia Office

Announcement has been made by Revere Copper and Brass, Inc., Rome, N. Y., of the opening of a sales office located at 2604 Fidelity-Philadelphia Trust building, 123 South Broad street, Philadelphia, under the direction of the Baltimore Copper Mills Division with George Giffault as manager. Mr. Giffault has been manager of the New York sales district of the Baltimore Copper Mills for the past thirteen years. David Hickman has been appointed assistant manager of this new office. He was formerly representative of the Rome Brass and Copper Co. in Cincinnati, Ohio.

◆

Will Manufacture Garbage Receptacles

Modern Equipment Co., 2238 Smead avenue, Toledo, Ohio, has just been organized to manufacture a line of garbage receptacles.

◆

EverHot Heater Co. Holds Sales Convention

The EverHot Heater Co. of Detroit, Mich., held its annual sales convention in that city in February, attended by distributors of the East and Middle West.

The two days of the convention were filled with activities, and addresses were given by Frank W. Shuell, president of the company; Elmer E. Ledbetter, treasurer; J. A. Appelhof, secretary; Walter I. Vallett, manager of branches, and Robert E. Thomas, advertising manager. Various other talks were made covering local conditions by E. S. Thompson, Philadelphia; H. E. Lauman, New York City; L. P. Eaton, Chicago; R. J. Shank, Des Moines, and Homer H. Shuell, Cleveland.

◆

Fleck Bros. Co., Opens New Showroom

Fleck Bros. Co., Philadelphia, in opening a new showroom at Germantown avenue and Manheim street in the Germantown section of the city, on March 10, invited four hundred master plumbers and heating contractors to attend, practically all of whom responded. The building which has been converted into the branch wholesale house is an old colonial structure erected in 1789 by Commodore Barron, who prior to and during the War of 1812 was commandant of the Philadelphia navy yard.

While extensive changes have been made to avail the business 1,500 square feet of display space, much of the old architecture remains undisturbed. The decorations are of ivory with black trimming, which offers an effective background for the various colored pieces on display. George Ritzinger has been made manager of the branch and William Keates is in charge of the display. To music furnished by the twenty-piece Soil Pipe Orchestra from the Reading Foundry & Supply Co., Reading, Pa., dancing was indulged in after a buffet supper had been served.

◆

American Plumbing Supply Co. Established in Union City, N. J.

The American Plumbing Supply Co., 861 Park avenue, Union City, N. J., opened its doors March 1 with Harry Lazarus as manager. Mr. Lazarus and the wholesale firm of Harris & Jaffe, Paterson, are financially interested in the enterprise.

◆

American Oil Burner Association Convention Meets April 7 to 12

The American Oil Burner Association has practically completed arrangements for its seventh annual convention and exposition to be held at the Hotel Stevens, Chicago, April 7 to 12. Among the striking features of the

Picture taken at the recent sales convention of the EverHot Heater Co., at Detroit, Mich.

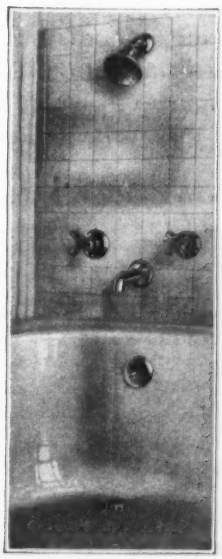
NO SCALDING OR UNEXPECTED SHOWERS...!

The shower bather first tempers the water at the spout, then switches the same water up to the shower head by simply lifting the lever on the diverter. No accidental scalding.

When the shower bather turns off the HOT and COLD valves, the diverter automatically returns to the TUB position. The lever is always down until the user lifts it up. No unexpected showers.

The diverter valve is in the spout on the wall—not in the wall. It is all-metal . . . no rubber, no spring. Gravity holds it in the TUB position because the handle outweighs the flapper. When the water is on and the handle is raised, water pressure holds it in the SHOWER position as long as there is water in the riser.

No Rubber— No Spring..



The complete bath fixture illustrated herewith has other special features: A shower head with removable face plate and holes that will not stop up; only two valves, separate HOT and COLD in the wall which are accessible from the face of the wall; each valve has a standardized working unit that's as easily renewed as a light bulb—all wearing parts come out with the loosening of the cap—seat is of Monel Metal; a pop-up bath waste with the stopper in the outlet of the tub—no need to get at it from behind.

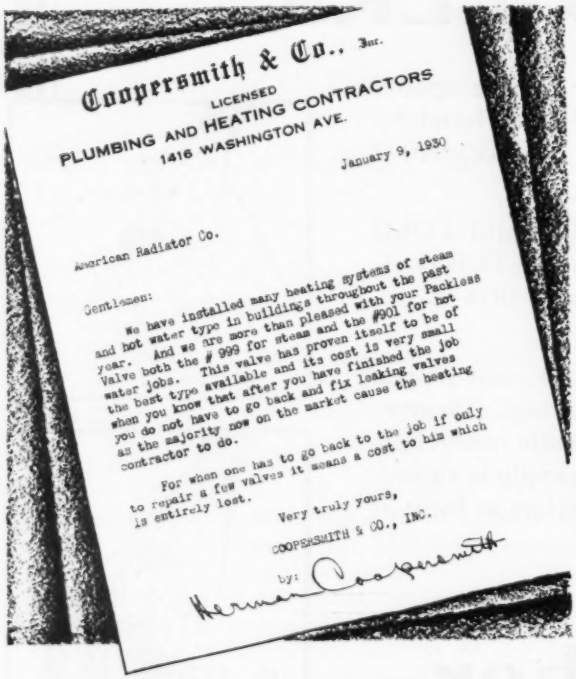
This unusual fixture is available in three designs: Art Chrome all-metal octagonal pattern, chromium plated; round pattern with all-metal or china trim.

Write for a copy of our new 76-page catalog just off the press.

THE CHICAGO FAUCET CO., 2700-22 N. Crawford Ave., Chicago, Ill.

CHICAGO FAUCETS

"You DON'T *have to* GO BACK *to* FIX LEAKING VALVES"


Coopersmith & Co., Inc.
LICENSED
PLUMBING AND HEATING CONTRACTORS
1416 WASHINGTON AVE.

January 9, 1930

American Radiator Co.

Gentlemen:

We have installed many heating systems of steam and hot water type in buildings throughout the past year. And we are more than pleased with your Packless Valve both the # 999 for steam and the #901 for hot water jobs. This valve has proven itself to be of the best type available and its cost is very small when you know that after you have finished the job you do not have to go back and fix leaking valves as the majority now on the market cause the heating contractor to do.

For when one has to go back to the job if only to repair a few valves it means a cost to him which is entirely lost.

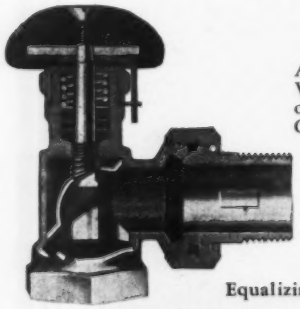
Very truly yours,

COOPERSMITH & CO., INC.

by: Herman Coopersmith

ARCO PACKLESS VALVES are handsome in appearance, last indefinitely, open with one smooth turn and insure owners against damage from leaks. They require no repacking so they cost less than the old style valves that make a return trip necessary.

STANDARDIZE ON ARCO PACKLESS



No. 999 for Steam
No. 901 for Water

A complete line of Packless Valves for steam, water, vapor or vacuum. Made in Angle, Corner, Globe and Gate patterns.

No. 901
Equalizing Arco Packless

AMERICAN RADIATOR COMPANY

Makers of a complete line of guaranteed heating accessories

exposition will be the new color schemes displayed in great variety by several manufacturers. Some of the exhibitors will give operating demonstrations of complete plants. For the convention program, a large number of speakers have been chosen to give addresses on subjects of interest to the manufacturer, wholesaler and distributor.

◆

Central Supply Association Meets March 25 and 26

The Central Supply Association will meet for its 104th regular meeting on March 25 and 26, at the Palmer House, Chicago. W. H. Kiefaber of the W. H. Kiefaber Co., Dayton, Ohio, is president of the association and W. E. McCollum is secretary.

◆

Wigman Co. Increases Capital Stock

The Wigman Co., wholesale plumbing and heating supply concern of Sioux City, Ia., has made an amendment to its articles of incorporation, increasing the capital stock of the company from $30,000 to $150,000.

◆

Is Now Waltham Oil Burner Corp.

The Benford Oil Burner Corp., Waltham, Mass., has changed its name to the Waltham Oil Burner Corp. Charles M. Rimbach, formerly vice president and general manager of the corporation, has been elected president. William H. Wyse continues as treasurer and Charles E. Jones, formerly manufacturing manager, has been made vice president. Charles A. Benford, former president of the corporation, is no longer connected with the organization.

◆

Mason Regulator Co. Appoints Manhattan Distributor

The Mason Regulator Co., Boston, Mass., has announced the appointment of King & Shepherd, 50 Church street, New York City, as its distributors for the Manhattan district.

◆

Plumbing, Steam and Metal Salesmen's Association of Maine Holds Annual Meeting

The Plumbing, Steam and Metal Salesmen's Association of Maine held its annual party at Dunscroft Inn, Dunstan, Maine, on Monday, March 10.

Preceding the dinner the annual meeting and election of officers for the coming year took place with President Charles A. Voter presiding. The following officers were elected: President, R. D. Rich, manager of the Portland Branch of the American Radiator Company; first vice president, Edmund Henry, manufacturers' representative of Boston; second vice president, I. W. Pottle, Portland Tinware Company; third vice-president, Homer C. Fraser, R. B. Dunning Co., of Bangor; treasurer, Frank S. Billings, of H. L. Doten and Sons; recording secretary, Percy Quimby of C. M. & H. T. Plummer Co.

The following new members were elected to the association: J. W. Chase of Portland and Richard Young of Bangor. A motion was made that the name of the association be changed. Consequently, at the next annual meeting the members will bring in recommendations and at that time a new name for the association will be decided upon.

old fashioned square dance should be executed. Mr. Parker, who is no longer eligible for office in the association due to a change in his occupation, paid tribute to his associates in the past years, and was presented at the close of his address with a beautiful spinnet desk as a token of his many years of faithful service with the association.

The evening closed with a musical sketch presented by Mrs. Sadie Nissen and Miss Jackson.

◆

Walworth Co. Adds Two New Directors

At the annual meeting of stockholders of Walworth Co., Boston, recently held, it was voted to add R. C. Hunt, president and J. M. Olmsted, vice president, of E. H. Rollins & Sons, to the board of directors. Approval to offer ten thousand additional shares of common stock to officers and employees was voted by the directors. The provision makes the stock available at $30 per share to those connected with subsidiaries as well as the principal company.

◆

Jenkins Bros. Employes Hold Annual Banquet

An organization of employes of Jenkins Bros., Bridgeport, Conn., known as the Jenkins Bros. Veterans' League, held its seventh annual banquet at the Stratfield hotel in February. The league is composed of employes who have been with the company a minimum of twenty-five years. At the meeting were two members who had been with Jenkins Bros. for fifty years, William B. Lockwood of Bridgeport, who retires June 1, and Frank T. Swain of New York City, who retired March 1. Mr. Swain was vice president of the company.

◆

May Oil Burner Corp. Declares Extra Dividend

At a special meeting of the board of directors of May Oil Burner Corp., Baltimore, Md., an extra dividend of 50 cents per share was declared on the common stock.

The company also reports the establishment of a factory and subsidiary organization in Toronto, Ont., to take care of its business in the dominion.

◆

Grinnell Co. Opens New Plant

Grinnell Co., Inc., Providence, R. I., opened its new fabricating plant, located at 240 Highland avenue, N. E., Atlanta, Ga., on March 1.

◆

U. S. Radiator Corp. Reports Dividends

The United States Radiator Corp., Pittsburgh, and subsidiaries report for the year ending January 31 a net profit of $1,037,527, equal after dividends on 42,096 shares of preferred stock to $3.51 a share on 211,672 shares of common. This compares with $548,879, or $1.20 a share on the same amount of common stock over the same period of 1928.

Trade Practice Rules and the Wholesaler*

By F. W. SWANSON, Commissioner of the National Plumbing and Heating Institute

WE presume it is natural to expect the manufacturer, the man who is called the original producer, the man who is engaged almost without exception in interstate commerce, to act quickly after his attention has been directed to the laws of the land and he has pledged himself to observe the Fair Trade Rules of his industry.

The manufacturer has acted quickly. If there was any house cleaning to do in his own house, he, himself, did it. If there was any house cleaning to do in his competitor's house he helped do it.

September 23, 1929, saw the approval by the Federal Trade Commission of the twelve Trade Practice Rules adopted by the wholesaling and manufacturing branches of the plumbing and heating industry.

We believe it safe to say that the plumbing and heating wholesaler the country over knows that his plumbing and heating manufacturer has put the Trade Practice Rules of his industry into effect.

The evidence is both personal and public and is convincing.

The wholesaler knows, because the secret rebate, the secret service, the secret privilege enjoyed by him in the past has been withdrawn.

The wholesaler knows, because the published prices of his manufacturer as applying to his future purchases tell him it is so.

The wholesaler knows, because transactions of late between him and his manufacturer have been clean-cut transactions with terms, discounts and preferentials, stated clearly and applying alike to him as to all other wholesalers, within his same class of purchasers.

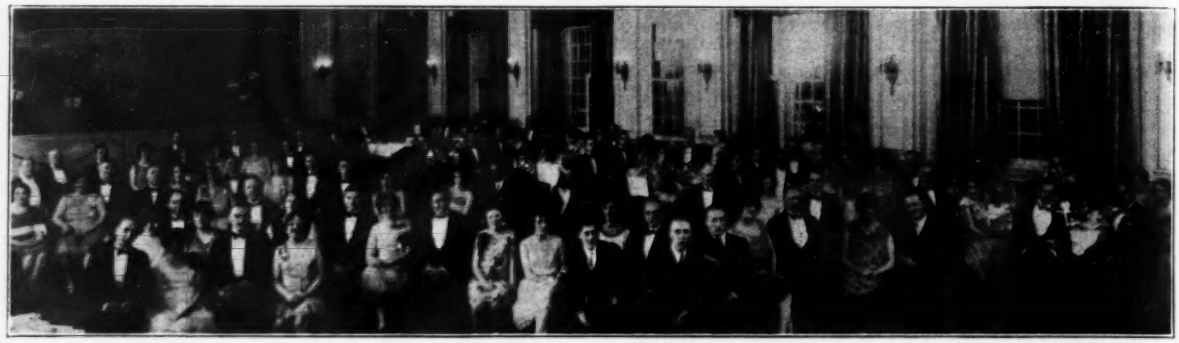
F. W. Swanson

The wholesaler knows, because though his position naturally makes him slower to move, he is yet quick to see and quick to hear.

The wholesaler sees the earnestness and sincerity with which his manufacturer, through the aid of his associations and institute, seeks to secure by all of his group the abandonment of unfair practices and the adherence of all in his group to Fair Trade Practice Rules of business conduct.

The wholesaler is glad to see the Boiler and Radiator

* Excerpt from an address delivered before the recent meeting of the Eastern Supply Association.



Group photo taken at the fourth annual convention of the National Association of Plumbing and Heating Salesmen

Institute, the Steel Heating Boiler Institute, the Enameled-Ware Institute, the Fittings Institute, the Plumbers Brass Institute, the Soil Pipe Institute, the Woodwork Institute, the Range Boiler Institute, the Iron Specialties Institute, the Pottery Institute, the Valve Institute and others like them work for Fair Trade Practices throughout the industry.

The wholesaler has seen many unfair practices in price classification that formerly set up unfair price discrimination eliminated by his manufacturer.

Trade Practice Rules and the Wholesaler should be of interest to all, but should be constantly in the thoughts of the wholesaler now.

Trade Practice Rules are in effect for both the manufacturer and the wholesaler and this much the wholesaler now knows has been gained as the result of the Trade Practice Rules, a better stabilization of his manufacturers' market.

For eleven years the wholesaler has charged the demoralized manufacturers' market in part at least for the condition of his own demoralized wholesaler market.

For eleven years he has asked his manufacturer to stabilize his market by eliminating from that market unfair practices.

As the plumbing and heating contractor has now come to realize and to believe that stability and prosperity in his market can only be brought about through the stability and prosperity of his wholesaler's market, so has the wholesaler come to realize and believe that as a prerequisite to the stability he needs in his market, there must be stability secured first in the market of his manufacturer.

It has been a mixed-up muddle. Perhaps, if the Industry had "huddled" together sooner in a Trade Practice Conference instead of muddling together for so long a time without one, it would not be so hard now to understand just what the simple thing is the wholesaler as well as the manufacturer must do if a better business and a more material growth are to return to all.

The wholesaler, like the manufacturer, must act—must apply the rules to his own business and then with his competitors secure a desire and a will for their observance.

The wholesaler must help himself and not wait any longer for someone else to help him help himself. He must go to work and make every personal sacrifice in service, effort and money to make his hopes of the past eleven years come true.

He must, as his manufacturer has done individually, set his own house in order.

He must, like his manufacturer, be willing to lose an order once in a while.

While it is admitted that the wholesaler is "betwixt and between," yet today the wholesaler is in a position to establish his own market by (a) first, abandonment of all unfair practices covered by our rules, (b) second, stabilization of what he now sets up in his own policies without including the bad practices that before tore down.

Many forces are at work for the benefit of the wholesaler as well as for the benefit of the manufacturer. Many forces are at work for the benefit of all branches of our Industry. Resale legislation is nearer today than ever before, though it must be remembered that resale legislation is not needed before the wholesaler as well as the manufacturer can do something to help himself. Without fear of being misunderstood, the old saying, "God helps those who help themselves," should be remembered now by all within the Industry, wholesaler and manufacturer. The Trade Practice Rules of the Industry were secured at great cost of time, effort and money, so that the wholesaler as well as the manufacturer could help himself through lawful self-regulation.

The wholesaler has a right to establish his price. Whatever his price, it is now his duty to live up to it without misrepresentation, without price discrimination, without secret rebates or secret privileges granted to the few but declared by the Rules unfair to the many.

We admit that it will not be easy for the wholesaler to follow this counsel. We realize that in the past it has not been easy to travel a straight course; it has been too easy for one wholesaler to influence the market of many wholesalers. We realize that, as one wholesaler expressed it in a recent New England meeting, "one bad apple will in time spoil all the good apples in the barrel." However, in the past a good wholesaler had no other thought but to stay in the barrel with the bad wholesaler, not realizing perhaps that there could be a sorting of wholesalers as well as a sorting of apples.

The good wholesaler should realize that he does not need to stay in the same barrel with the bad wholesaler.

The Trade Practice Rules of the Industry will help the wholesaler sort himself, and if a good wholesaler will sort himself and will cooperate with other good sorted wholesalers, this Institute can and will, through

its Trade Practice Committees now being set up and through its influence exerted for more Equitable Trade Relations, help to make the work of the bad wholesaler, as ineffective as possible. The Institute will now help the good wholesaler to justify the position he has taken in the past, that given fair opportunities to do for himself, he can take care of himself.

The Federal Trade Commission said in 1916 that "the purpose of conducting business is to make money and the only way to make money is to sell something for more than it costs. The first essential is to know the cost."

A good wholesaler, knowing his cost and pledged to observe the Fair Practices of his industry, will not for the purpose of injuring a competitor or for the effect of lessening competition or for the purpose of conducting his business, which according to the Federal Trade Commission, is to make money, violate Rule 7 and establish his market at a price below the cost of the merchandise plus the cost of his operation, both together making up the wholesaler's cost of distribution.

The good wholesaler will now think of stabilizing his own market at a fair price and work hard to maintain that fair price.

A good or bad wholesaler will never be able to stabilize any price if he is ready to meet every price.

One of the most successful hardware jobbers of the Middle West described "Cost of Distribution" in this language.

"The cost of distribution is nothing less than the market price we pay for doing business in this New Age when everybody 'hires done' what he once enjoyed doing himself."

It is the cost which trade and commerce pays for our twentieth century civilization. It is a civilization which demands luxury in service and renders luxury in service, as in everything else.

It is the cost of doing things at high speed in an electrified and motorized age. It is the Age that asks, "how quick I'll pay" instead of "how much in intrinsic value do I get for my money."

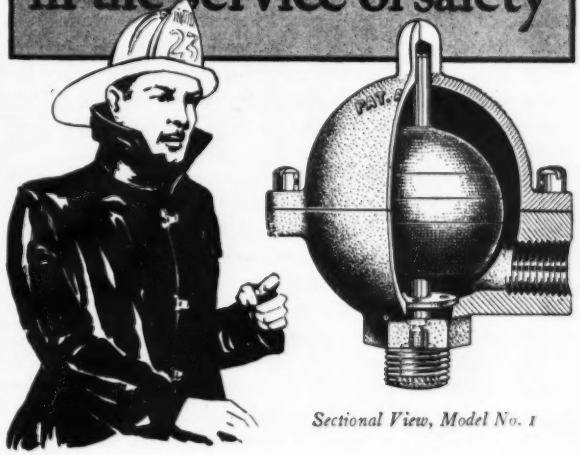
It is the Age that requires the telephone and telegram to succeed the postal card and the two-cent postage stamp.

It is the Age that put the horse out of commission and gave us in place high cost motor transportation. It is an Age when plumbing and heating commodities, as well as other commodities, must be moved by a $2,000 or $4,000 equipment, which becomes obsolete in four or five years.

And there are many other things which this civilized Age compels us to put on those shelves alongside the merchandise. One of them is the war which we bought over in Europe a few years ago and which we are now paying for on the installment plan, installments of taxes for years to come. It constitutes a considerable item in the cost of distribution. We bought it in one wholesale lot but we are selling it back to the folks in open package lots.

We are buying Railroad Systems and Parcel Post Systems, Telephone and Telegraph Systems, investments entailing billions; we are buying their operation and their cost of upkeep and we put those large items

Shoulder to shoulder in the service of safety



Sectional View, Model No. 1

Red Helmets...and Red Tops

Where lives and property are endangered by fire, the red helmet of the "chief" stands out in the thickest of the fray . . . a symbol of a stalwart warrior in the army of safety.

The red top of a Red Top Relief Valve is another such symbol. It identifies a relief valve which protects "closed" domestic hot water supply systems. Prevents explosions and other internal ruptures. Guards against damage done by rising pressures when a heater is accidentally left turned on.

A Red Top Model No. 1 may be set to relieve at 50, 75, 100 and 130 lbs. It works automatically, pressure opening the valve, and gravity closing it after proper relief has been given. Both this valve and Red Top No. 2 for hot water heating systems are approved by the Underwriters' Laboratories, Inc.

For further information use the coupon below.

NEPTUNE METER COMPANY
50 E. 42nd Street New York City, N. Y.
Branch Offices in Principal Cities

Red Top Relief Valve

NEPTUNE METER CO. D.E. 3-22-30
50 East 42nd Street, New York, N. Y.

Please send me a copy of the new edition of your folder, "Protection," which describes Red Top Relief Valves and their operation.

Name .....
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State .....

on our shelves and sell them with our plumbing and heating goods.

We are buying "365 day" public highways and elegantly paved streets and monumental schools and other public buildings and public parks and water systems and concrete bridges and many other such necessities and comforts and conveniences which have become a part of the civilization in which we live. They are large items and they go on your shelves and we sell them over again.

You may call these things indirect costs of distribution but they have a direct bearing upon overhead. The direct cause of their influence on the cost of clerk hire, the cost of rent, the cost of transportation, the cost of capital in the way of interest, the cost of personal living, the cost of every single item which goes to make up daily overhead.

The cost of distribution is nothing but a problem in simple arithmetic—adding a column of figures, the sum total which is irreducible by magic or jugglery.

These things are brought out as a matter of fact and indicate one of the fixed conditions of this Age. A condition which we will deal with until we pass into the next Age, which Age without doubt will be characterized by additions to instead of subtractions from present standards of comforts and conveniences.

You may have asked why this article on Trade Practice Rules and the Wholesaler?

Because there seems to be need of it.

Recently the Institute office received a letter indicating that many a wholesaler is still far from realizing the benefits that have come to him as a result of the Trade Practice Rules of the Industry and the greater benefits that will come to him *if the Trade Practice Rules the Industry now has are put into effect by the wholesaler in his own market and faithfully observed by his own organization.*

The letter called the attention of the Institute to the sliding scale of discounts depending upon quantity still offered to the wholesaler of certain commodities by his manufacturer.

A question was asked about our Rule 4 because of these quantity discounts and because in our rule we have the words "between purchasers of the same class," while Section 2 of the Clayton Act leaves out these words "between purchasers of the same class."

Different purchasers of commodities as appearing in Section 2 of the Clayton Act means "users occupying substantially the same position in the trade," or in other words, "purchaser of the same class." There is no difference between Section 2 of the Clayton Act and Rule 4 of our Trade Practice Rules except that Rule 4 of the Trade Practice Rules reads into the rule *the interpretations that have been made by the courts* of Section 2 of the Clayton Act.

While the wholesaler, naturally, in many cases, will question the expediency of the manufacturer quoting quantity discounts to the wholesaler, yet he must realize that under the law or under our Rule 4 there is nothing to prevent a manufacturer from discriminating between purchasers of the same class on account of differences in the quantity of the commodity sold. However, the wholesaler, since Fair Trade Practices have been adopted by the Industry, now knows what those discriminations in quantity prices are and that while purchasers in the same class of different commodities may have different costs, that *under the Fair Trade Practice Rules in effect with the wholesaler that they will not, should not and cannot be used for secret rebates and price discriminations in the wholesaler's resale. Unlike the past they no longer contribute so generally to the demoralization of the wholesaler's market.*

That much has been gained for the wholesaler through Trade Practice Rules, and it is a wonderful gain.

However, ninety-nine per cent is up to the individual.

Wholesaler, be right yourself so that you can believe more in your competitors. Most wholesalers are trying to do business right. Without a doubt in many instances if, when a wholesaler finds that his competitor has transgressed against him, he would go and tell him his fault he would secure a prompt correction of the unfair practice and gain as well a friend.

The local wholesaler, wherever he may be, must be slow to disturb his market after he first establishes a selling price that shows him a profit, and he must believe without reservation that co-operation between him and his competitor in the observance of Trade Practice Rules is not alone an economic necessity for one but is an economic necessity for all.

Manufacturer, be the last to break the Fair Trade Practice Rules of the Plumbing and Heating Industry.

Wholesaler, be the last to accept from your manufacturer concessions that are unfair and discriminatory to your competitors, and after you have done everything you could to maintain the stabilization of your manufacturer's market, make a market of your own, stand on your own feet, merchandise at a profit, and be the last to break the Fair Trade Practice Rules of the Plumbing and Heating Industry.

Photo taken at the recent sales meeting of the Central Supply Co., Minneapolis, Minn.

TRADE PENBERTHY PRODUCTS MARK

A SYMBOL

ITS MEANING TO THE PLUMBING CONTRACTOR

When a plumbing contractor installs an electric sump pump or hydraulic cellar drainer bearing the trade mark reproduced above, it means that—

—he will earn a fair profit

—his profit will not be dissipated in servicing

—installation is simple and can be quickly made

—reliability and operating economy have been proved

—the pump is immune to corrosion—of copper and bronze throughout

—a financially responsible manufacturer stands squarely behind him in assuring satisfaction to his customer

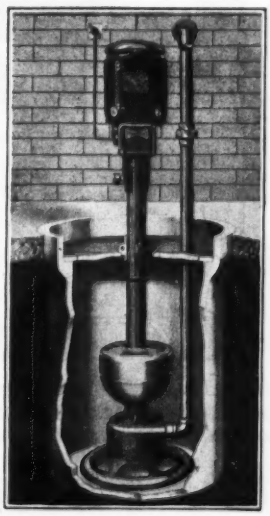
—the manufacturer has the experience, resources and research facilities to build to a purpose, not to a price

—the manufacturer is actively creating the demand by using large space in leading architectural and building publications.

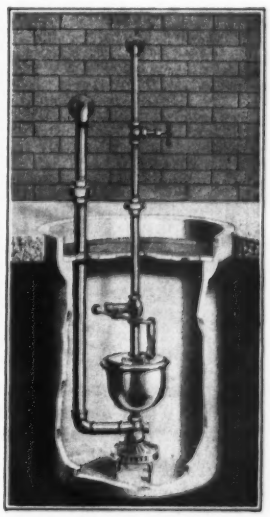
Carried in stock by leading jobbers throughout the country

PENBERTHY INJECTOR COMPANY

Established in 1886 DETROIT Canadian Plant Windsor, Ont.



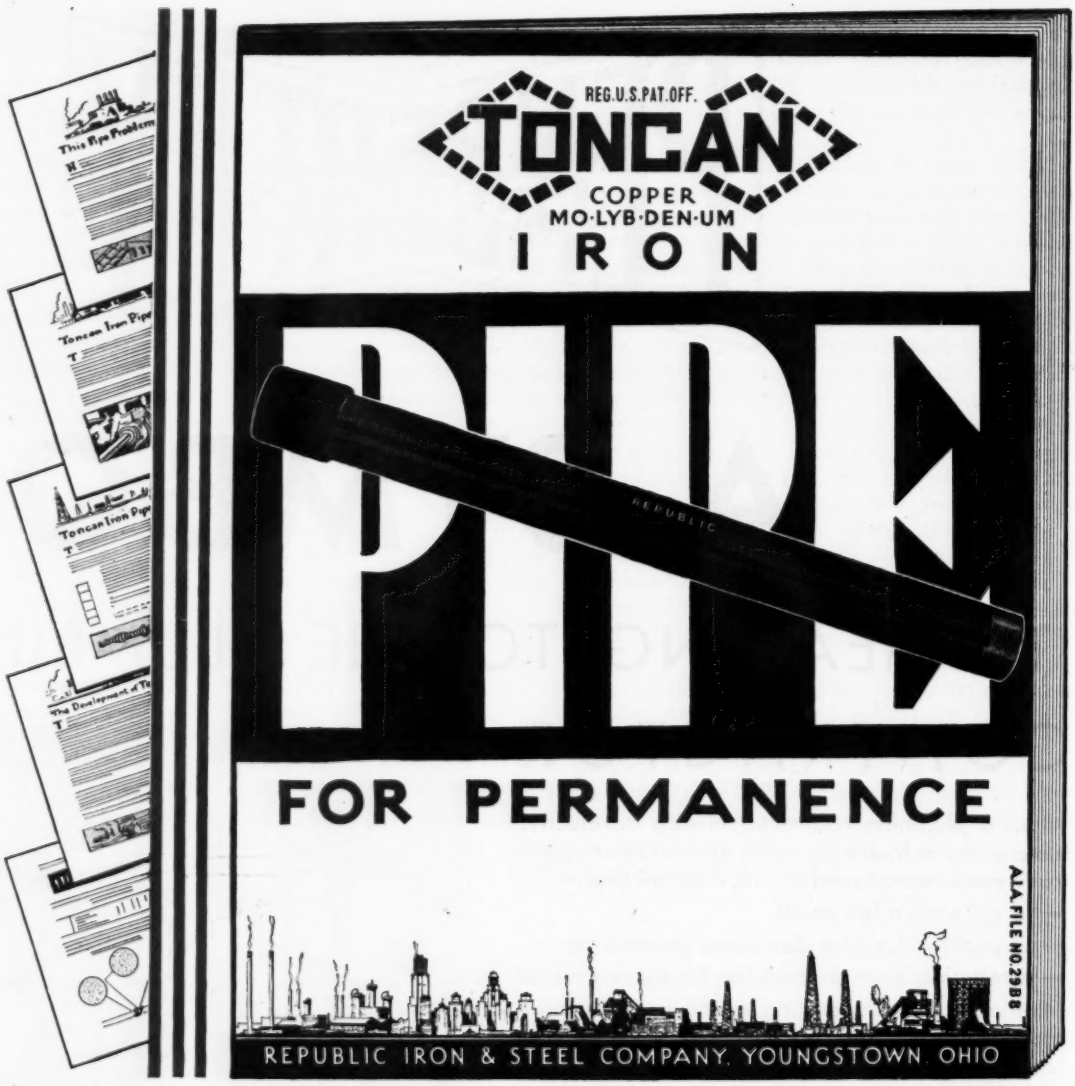
Penberthy Automatic Electric Sump Pump



Penberthy Automatic Cellar Drainer (Water Operated)

COPPER AND BRONZE THROUGHOUT

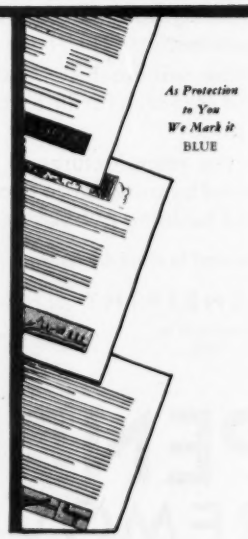
PENBERTHY PUMPS REMOVE SEEPAGE WATER



Pipe *for* Permanence·

You might think this an appeal—or perhaps a pipe of different character—or the title of a book. As a matter of fact, it is all of these.

Modern practice now requires that you Pipe for Permanence—with Toncan Iron Pipe—and if you don't know what Toncan is, you can read all about this longer life alloy iron pipe in the book bearing the title "Pipe for Permanence". This new and interesting book should be in the reference library of every architect, engineer, plant superintendent, purchasing agent, technical school—wherever pipe is bought, used or specified for any kind of service. Just a simple exposition of the latest contribution of Science to overcome "This Pipe Problem"—and there's a copy for you all ready to mail upon receipt of your request.



As Protection to You We Mark it BLUE

REPUBLIC IRON & STEEL COMPANY
YOUNGSTOWN, OHIO

Birmingham Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit
El Paso Los Angeles New York Philadelphia Pittsburgh San Francisco Seattle St. Louis

Goulds Pumps, Inc., Elects Officers

At the annual meeting of Goulds Pumps, Inc., Seneca Falls, N. Y., held March 10 at the company's offices, Norman J. Gould was reelected president. Other officers were reelected as follows: C. W. Colby of Montreal, Can., first vice president; Harvey S. Freedenburgh, secretary and comptroller; E. William Madden, treasurer; William D. Pomerey, second vice president and general manager; Seabury S. Gould, third vice president; and Meronan K. Smith, assistant treasurer. Directors are: Norman J. Gould, William D. Pomerey, D. H. Snell, C. W. Colby and Kenneth Molson, all being reelections.

◆

T. McAvity & Sons, Ltd., Managers Meet

T. McAvity & Sons, Ltd., of St. John, N. B., recently held its annual meeting of managers at the company's Rothsay avenue plant, in that city. The four days' sessions were conducted by C. G. McAvity, managing director; O. J. Delaney, general sales manager, and F. L. Miller, assistant secretary. The conference was concluded with a banquet at the Admiral Beatty hotel.

◆

Directors of National Plumbing Institute Meet

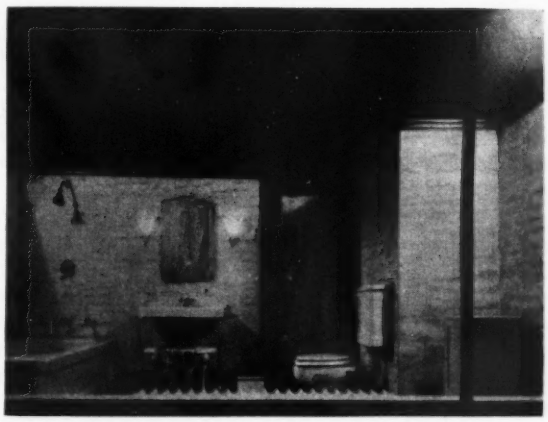
The board of directors of the National Plumbing and Heating Institute held its first meeting of the year in New York City on February 14, the day following the meeting of the Eastern Supply Association. All of the members were present. It was brought out that since the first of the year the institute has secured over five hundred new signatures to the trade practice rules, 345 manufacturers and 220 wholesalers. To date, it is reported, nearly 1,700 manufacturers and wholesalers have signed the rules.

J. C. McEwen of the Davies Supply Co., Chicago, treasurer of the institute, reported that the financial committee was meeting with a most ready response from all.

Max F. Burger, formerly assistant to the secretary of the Central Supply Association, was elected assistant to the commissioner of the institute. The board accepted with regret the resignation, on account of ill health, of James A. Messer of James A. Messer Co., Inc., Washington, D. C., director of Zone No. 2. William A. Brecht of the Hajoca Corp., Philadelphia, Pa., was elected Mr. Messer's successor. The Valve Manufacturers' Association and the Plumbers' Woodwork Institute were admitted to membership.

Following are the members of the board of directors: H. M. Reed, Standard Sanitary Mfg. Co., Pittsburgh; H. W. Seymour, Crane Co., Chicago; H. V. Kohler, Kohler Co., Kohler, Wis.; M. J. Beirn, American Radiator Co., New York City; L. B. Peeples, Crane Co., Los Angeles, Calif.; J. J. Crotty, Central Foundry Co., New York City; M. W. Dennison, Braman, Dow & Co., Boston, Mass.; J. C. McEwen, Davies Supply Co., Chicago; F. W. Swanson of Chicago, president and commissioner; J. C. Bowles, Bowles Co., Seattle, Wash.; C. A. Dunlay, Dunlay-Armand Co., Houston, Tex.

The next meeting of the board will be held at Pinehurst, N. C., on May 8, the day following the annual convention of the National Pipe & Supplies Association.



This show window of the Plumbers' Supply Co., at New Bedford, Mass., is a good example of a well-appointed display of plumbing fixtures

Exhibit of The Conover Company at the recent convention of the Illinois Master Plumbers' Association

◆

American Radiator Co. Broadcasts Puccini Opera

The American Radiator and Standard Sanitary Corp., New York City, broadcast over a nation wide network March 15 Puccini's opera "Turandot," the work on which the maestro was engaged when he died in November, 1924. Franco Alfano, with the assistance of Arturo Toscanini, finished the opera. This, the fifth in the series of broadcasts by the corporation, was supplemented with talks on plumbing and heating equipment.

◆

New York Salesmen Hold Party

The New York Chapter of the National Plumbing and Heating Salesmen's Association held its annual dinner dance on March 1 at the Hotel McAlpin, New York City. The guests, approximating one hundred, assembled in the Red Rose room of the hotel to enjoy what has been pronounced the most colorful and pleasurable affair at which the organization has been host. At the conclusion of a delightful dinner dancing was in order until the early hours of the following morning. Arrangements for the event were made by Harry LaCroix, chairman of the committee; J. H. Hurley and F. L. Dodson.

Personal Mention

MERWIN K. HART, president of Hart & Crouse Co. of Utica, N. Y., and chairman of the committee of the New York State Economic Congress, recently addressed the Kiwanis club of Watertown, N. Y., discussing the power needs of New York state.

PORTER WEST has been appointed manager of the Chicago office of C. F. Church Mfg. Co. of Holyoke, Mass. Mr. West was formerly a manufacturers' agent in Detroit, Mich., where he represented the Church company and also the Chicago Faucet Co. of Chicago. GEORGE E. COLLIER, formerly representative for the Church company in the Connecticut territory, has been made manager of the company's Detroit office.

JOHN J. GORE, who for the past eight years has been with the Wolff Co., Chicago, has joined the A. Y. McDonald Mfg. Co. of Dubuque, Ia., representing this company in the greater Chicago territory on its line of plumbers' brass goods, pumps and oil goods.

WILLIAM F. MULCAHY has been made manager of the Detroit, Mich., office of the Chicago Faucet Co., Chicago, succeeding Porter West, who formerly served as representative for the company in that territory. Mr. Mulcahy has been connected with the wholesaling branch of the industry in Detroit for a number of years, and is maintaining headquarters in Room 410 of the Donovan building.

COLLINS P. BLISS of New York University, New York City, has been elevated from the position of associate dean of engineering, which he has occupied for a number of years, to that of dean, succeeding Charles H. Snow who has retired. Dean Bliss graduated from Princeton University in 1888, the Columbia School of Architecture in 1891, and later took work at the Columbia School of Mines. He also received a master's degree from Princeton. Just previous to the World's Fair in Chicago in 1893 he investigated the smoke nuisance in that city. At one time he was consulting engineer to the bureau of standards in Washington. Recently he became interested, together with Walter S. L. Cleverdon, professor of sanitary engineering at the university, in the establishment of a plumbing course at that institution.

W. M. MCKINNEY has been appointed manager of the N. O. Nelson Mfg. Co., St. Louis, Mo., branches in Memphis, Tenn., and Jackson, Miss.

B. H. DAVIS, for the past two years Philadelphia distributor for the boiler division of Orr & Sembower, Inc., Reading, Pa., has been appointed manager of sales for the boiler division of that company. Mr. Davis has been associated with the heating industry for the past thirty years, having been connected with the American Radiator Co., New York City, previous to his association with Orr & Sembower.

RAYMOND D. BITZER, manufacturers' agent at 3142 North Broad street, Philadelphia, Pa., has been appointed sales representative for the Richmond Foundry & Mfg. Co., Inc., Richmond, Va., to cover the Philadelphia territory, including eastern Pennsylvania, Baltimore, Md., and Washington, D. C. This is in addition to the lines he already carries.

J. M. BUTTS, Georgia Savings Bank building, Atlanta, Ga., has been appointed sales representative for the Blake Specialty Co., Rock Island, Ill., to cover the territory including Georgia, Florida and North and South Carolina.

E. W. STITT, until recently connected with the Pittsburgh office of the National Radiator Corp., New York City, has been transferred to the general offices of the company at Johnstown, Pa., in the capacity of sales engineer. Mr. Stitt was formerly associated with the Hoffman Specialty Co., Waterbury, Conn., and previous to that, with the U. S. Radiator Corp., Detroit, Mich.

C. C. GRAY, of the B. F. Sturtevant Co., Hyde Park, Boston, Mass., has been given charge of that company's newly established merchandising department, and will control details of distribution and advertising, as well as directing salesmen.

Carl C. Gray

M. E. BLIER has been appointed by the May Oil Burner Corp., Baltimore, Md., as that company's representative in South America. Mr. Blier left recently for an extended trip through Argentine, Brazil, Chile, Paraguay and Uruguay to contact distributors who are already operating in these countries, and to appoint additional dealers and distributors for the May Oil Burner Corp. His headquarters will be in Buenos Aires.

J. C. CHAFFE has been appointed to the post of division manager for the Southern territory, with headquarters in Atlanta, Ga., of the A. M. Byers Co. of Pittsburgh, Pa.

GLEN P. GESSELL, formerly Detroit branch manager of the Silent Automatic Corp., Detroit, Mich., has been made general branch manager in charge of all branch activities. Mr. Gessell has been with the corporation since its inception in 1925 and has been Detroit branch manager nearly all of that time. It was also announced that FRANK W. CHAMBERLIN, formerly manager of the Birmingham, Mich., branch, has been transferred to Boston in charge of the Silent Automatic Corp. branch there.

WALLACE F. GOODNOW, for the past several years chief engineer for Pierce, Butler & Pierce Mfg. Corp., New York City, has been engaged by the Rome Brass Radiator Corp., New York City, as its chief development engineer in the concealed radiator division. Mr. Goodnow first entered the heating industry with B. F. Sturtevant Co., Inc., Boston, in 1902, later becoming associated with the American Radiator Co., New York City, as development engineer in the general sales department, and for a time afterwards was connected with the Caloroil Burner Corp., New York City, and Petroleum Heat & Power Co., Stamford, Conn.

F. E. DAVIS, formerly sales manager and director of the water supply department of the Central Supply Co., Worcester, Mass., has joined the organization of the Aetna Engineering Co., Boston.

Convention Dates

March 25 and 26, 1930.—C. S. A.—The 104th regular meeting of the Central Supply Association, to be held at the Palmer House, Chicago.

March 25, 26 and 27, 1930—MICHIGAN—The annual convention of the Michigan State Association of Master Plumbers, to be held at the Hotel Hayes, Jackson, Mich.

April 7 and 8, 1930—ARKANSAS—The annual convention of the Arkansas Master Plumbers' Association, to be held at Fort Smith, with headquarters at the Ward hotel.

April 7 to 12, 1930—AMERICAN OIL BURNER ASSOCIATION—The seventh annual convention and exposition of the American Oil Burner Association, to be held at the Stevens Hotel, Chicago, Ill.

April 8 and 9, 1930—NEW YORK—The annual convention of the New York State Master Plumbers' Association, to be held in New York City, with headquarters at the Hotel Pennsylvania.

April 14 and 15, 1930.—WISCONSIN—The annual convention of the Heating and Piping Contractors Wisconsin Association, to be held at Sheboygan, with convention headquarters at the Association of Commerce rooms.

April 14, 15 and 16, 1930.—TEXAS—The annual convention of the Associated Master Plumbers of Texas to be held at Abilene, with headquarters at the Hilton hotel.

April 19, 1930.—MONTANA—The annual convention of the Montana Master Plumbers Association to be held at Boulder, with headquarters at the Boulder Springs hotel.

April 21 and 22, 1930.—COLORADO—The annual convention of the Colorado Society of Sanitary and Heating Engineers, to be held at Denver, with headquarters at the Hotel Albany.

April 22, 1930.—RHODE ISLAND—The annual convention and banquet of the Rhode Island State Association of Master Plumbers, to be held at Jim Smith's Inn, Warwick, R. I.

April 22 and 23, 1930.—MASSACHUSETTS—The annual convention of the Massachusetts State Association of Master Plumbers, to be held at Boston, with headquarters at the Statler hotel.

April 25 and 26, 1930—LOUISIANA-MISSISSIPPI—The annual convention of the Louisiana-Mississippi Association of Plumbing and Heating Dealers to be held at Shreveport, La., with headquarters at the Washington Hotel.

May 5 and 6, 1930.—FLORIDA—The ninth annual convention of the Florida Association of Master Plumbers and Heating Dealers, Inc., to be held at Bradenton, with headquarters at the Dixie Grande hotel.

May 9 and 10, 1930.—OREGON—The annual convention of the Oregon State Master Plumbers Association, to be held at Tillamook, with headquarters at the Tillamook hotel.

May 12 and 13, 1930.—GEORGIA—The thirty-eighth annual convention of the Georgia State Association of Master Plumbers, to be held in Atlanta, with headquarters at the Henry Grady hotel.

May 12 and 13, 1930.—OKLAHOMA—The annual convention of the Oklahoma State Association of Master Plumbers, to be held at Shawnee, with headquarters at the Hotel Hilton Phillips.

May 12, 13 and 14, 1930—N. P. S. A.—The annual convention of the National Pipe & Supplies Association, to be held at Pinehurst, N. C., with headquarters at the Carolina hotel.

May 12, 13, 14, 15 and 16, 1930.—CALIFORNIA—The annual convention of the State Association of Master Plumbers of California, to be held at Sacramento. Convention headquarters will be at the Hotel Senator.

May 13 and 14, 1930.—CONNECTICUT—The fortieth annual convention of the Master Plumbers' Association of Connecticut, Inc., to be held at Hartford, with headquarters at the Bond hotel.

May 13 and 14, 1930—NEW JERSEY—The annual convention of the New Jersey State Association of Master Plumbers, to be held at the Woodrow Wilson hotel, New Brunswick, N. J.

May 19 and 20, 1930.—ALABAMA—The annual convention of the Alabama Master Plumbers Association, to be held at Birmingham, with headquarters at the Bankhead-Leland hotel.

May 19-20, 1930—TENNESSEE—The annual convention of the Associated Master Plumbers of Tennessee, to be held at Chattanooga, with headquarters at the Hotel Patten.

May 19, 20 and 21, 1930—PENNSYLVANIA—The annual con-

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It's best to buy
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After you have tried ARMSTRONG BROS. improved pipe dies and have discovered how much time and muscle these Vanadium Tool Steel Dies with "Backed-Off" chasers will save you, it's best to buy them in sets. That's the way to be sure to have the most efficient combination—ARMSTRONG BROS. Dies and ARMSTRONG BROS. Stocks — to know that you are ready for every job. Each set consists of one stock and an assortment of dies, and guides. You can be sure of perfect fitting, accurately cut threads when you use ARMSTRONG BROS. Dies with ARMSTRONG BROS. Stocks.

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PERTH AMBOY, NEW JERSEY

MANUFACTURERS OF SANITARY WARE

vention of the Pennsylvania Master Plumbers' Association, to be held at the Bellevue-Stratford hotel, Philadelphia.

May 23 and 24, 1930.—WASHINGTON—The annual convention of the Washington State Master Plumbers' Association, to be held at Seattle.

May 26, 27 and 28, 1930.—KENTUCKY—The annual convention of the Kentucky State Association of Master Plumbers to be held at Crab Orchard, with headquarters at the Crab Orchard Spring hotel.

May 28 and 29, 1930.—NORTH CAROLINA—The twentieth annual convention of the North Carolina Association of Plumbing and Heating Contractors, to be held at Concord.

June 16-19, 1930—H. P. C. N. A.—The forty-first convention of the Heating and Piping Contractors National Association, to be held at the New Yorker hotel, New York City.

June 24, 25 and 26, 1930—N. A. M. P.—The forty-eighth annual convention of the National Association of Master Plumbers, at Boston, Mass. Sessions at Grand Hall of Mechanics Building. Headquarters at Statler Hotel.

COMING TRADE EVENTS

April 7-12, 1930.—The seventh annual exposition of the American Oil Burner Association, to be held at the Hotel Stevens, Chicago.

April 9, 10 and 11, 1930—The Midwest Bituminous Coal Conference, to be held at Purdue University, Lafayette, Ind., sponsored by the Engineering Extension Department of Purdue University, the Coal Trade Association of Indiana and the Illinois Coal Bureau, in collaboration with the Fuels Division of the American Society of Mechanical Engineers.

April 22, 1930—The annual dinner-dance of the Association of Master Plumbers of Maryland, to be held at the Lord Baltimore hotel, Baltimore.

June 23-27, 1930—Exposition in connection with the annual convention of the National Association of Master Plumbers, in the Mechanics Building, Boston, Mass.

Specialized Plumbing

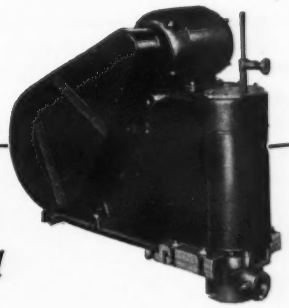
(Continued from Page 68)

viduality in ideas and design, and in most instances this kind of selling helped me get my contract.

Personal Contact Pays

Meanwhile, I started the remodeling and repair business going by personal solicitation. Personal contact I have always found most productive of results. I sent letters to all my regular customers, including contractors, explaining my plan for taking care of plumbing maintenance. That is the title of my repair department, "Plumbing Maintenance." It sounds better than "Repairing." In my letters I indicated that I would inspect their plumbing at any time free of charge and without obligation, and elaborated on how that kept it in condition and prolonged its service. A small attention here and there stopped the progress of further deterioration and further damage. Then I followed those letters religiously with personal calls. Those interviews were not essentially productive of business at the moment, but they kept a personal contact alive. Soon my phone began to ring, the mail bringing to me requests to call or orders for small jobs.

In order to handle this work efficiently it was necessary to systematize its management. I had retained in my employ a man who, as well as being a most efficient estimator, is keenly alive to sales opportunity. When an order came in, or an inquiry was made by a customer, the first place it went was to my estimator (now my assistant). His job was to call that customer on the phone, making an appointment for himself or me to call and look over the job. In this way no job was started or given to



In selling this system, you sell a "salesman"

Every time you sell a well water pumping system, you create a prospect for a complete plumbing installation. If the system is satisfactory in every way the prospect will return to you when he wants his barns and his home piped and equipped.

There is no better way of insuring his return than recommending this Crane-Warlo Deep Well System. Every part of it is made to give enduring, untroubled service. It operates with a simple single stroke. Through gravity its positive, overhead system carries a flood of oil to every pin and bearing. Such efficiency adds years of life to every part. Offered at prices ranging from $150 to $259 this No. 850 will pump 125 to 510 gallons hourly from depths to 250 feet. More than enough water to amply supply kitchen, laundry, bath, barns and garden.

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To be sure of an entirely Modern Bathroom Install

SHERWOOD Ball Cocks

No bathroom, no matter how beautiful and expensive the fixtures, can ever be accounted a *modern* bathroom if it has a noisy, leaky ball cock.

The hundreds of dollars that go into the making of a bathroom that is beautiful to the eye might just as well be spent in some other direction if the owner is going to be dissatisfied with the performance of so "small" an item as the ball cock.

You want your bathrooms to be credits to your workmanship, your ability and your knowledge of the correct thing to use. You can be sure that every bathroom you equip with a Sherwood Ball Cock will always be a bathroom where leaks, noise and whistles in the tank will never be known.

Sherwood Ball Cocks are guaranteed against leaks and they will close against any city water pressure without whistling or gurgling.

They can be furnished with any length shank desired. Your jobber either stocks Sherwoods or can get immediate delivery from the factory.

Insist upon Sherwoods for your own and your customer's satisfaction.

SHERWOOD BRASS WORKS
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E. S. Thompson, 2401 Chestnut St., Philadelphia
Fred G. Hoffman, 821 Edgewood Ave., Trenton, N. J.
Fred S. Wilsey, Plymouth Bldg., Minneapolis

a mechanic until we knew all about it and had suggested anything not thought of by the customer, as necessary to give him a perfect service. This sold merchandise for us as well. Sometimes we would find a water heater sale possible, or some electric device. Once we landed a ventilating system. All these things, through specialized attention in an effort to give service, were rapidly developing a specialization of plumbing divided into several important and profitable departments.

We got to the point where we never knew what a call to repair a faucet or clean a stopped waste would lead to. Instead of a small job of a few dollars it might finish in a five hundred dollar one, or even more, with a very fine profit in every one. We had no competition after a while. We had outdistanced the average man who handled small work; where he saw only a small repair job, we saw opportunity. We catered more to the big residences, specialized on a study of what that type of owner wanted and then went in to find out what we could give him that would be different from any one else.

When we first started after this remodeling and repair business it was in the spirit of the drowning man grasping the straw and we found competition among the repair plumbers just as keen as in the contract game. But as it developed, we became students of each condition confronting us; that made us specialists so that today, we enjoy a class of trade that rarely, if ever, question our charges and most of the time, we get our jobs on an open price basis. The business is once again in a sound and healthy condition, despite depressed industrial conditions in the factories here.

Modern Management Ideas

One of the things that has mystified me is that this opportunity has never been absent, and how my eyes and mind were closed to how much can be developed out of the plumbing business, I cannot yet understand. Maybe I needed necessity to make me look and see my chance.

Certainly, I have become convinced of one prominent feature in the whole experience. The plumbing business has so progressed within the past fifteen years that it is no longer just plumbing in a collective sense. There are so many devices electric, oil, gas, and what not, that the road to success in the business today is through specializing on certain lines. Departmentalizing each specialized division of plumbing may be a dream, probably not possible in a small town where I am located, but in the larger towns and big cities, departmentalized, specialized operations in plumbing are some of the dead sure, straight roads over the top of price competition.

It pays to quit when you're losing money; that requires no depth of thought. But it also pays to dig deeper for worms in dry weather rather than continue skimming the top and have nothing to fish with in the end. The extent of building up the size of any job depends on the customer's pocketbook and how hard you think to find how much ore can be had.

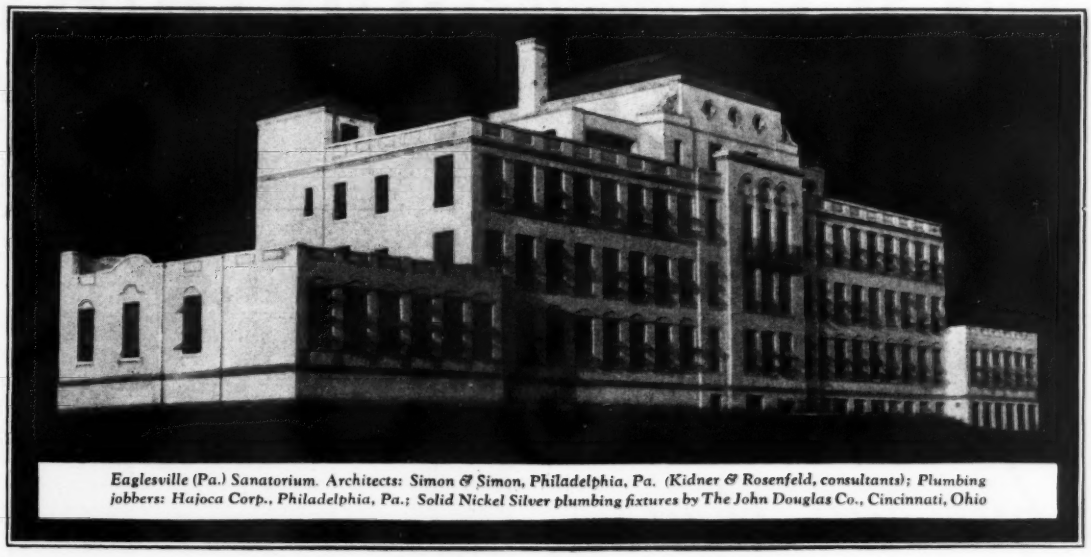
1855 - SEVENTY-FIFTH ANNIVERSARY - 1930

ONE MILLION HOMES WILL BE MODERNIZED THIS YEAR.
CRANE CO. CAN BE OF REAL ASSISTANCE IN HELPING
YOU SECURE YOUR SHARE

CRANE

FOR IN ADDITION TO ITS REGULAR SERVICE, CRANE CO. CAN
SUGGEST TO YOU METHODS OF LOCATING THESE HOMES

MEETING ARCHITECTURAL STANDARDS OF QUALITY



Eaglesville (Pa.) Sanatorium. Architects: Simon & Simon, Philadelphia, Pa. (Kidner & Rosenfeld, consultants); Plumbing jobbers: Hajoca Corp., Philadelphia, Pa.; Solid Nickel Silver plumbing fixtures by The John Douglas Co., Cincinnati, Ohio

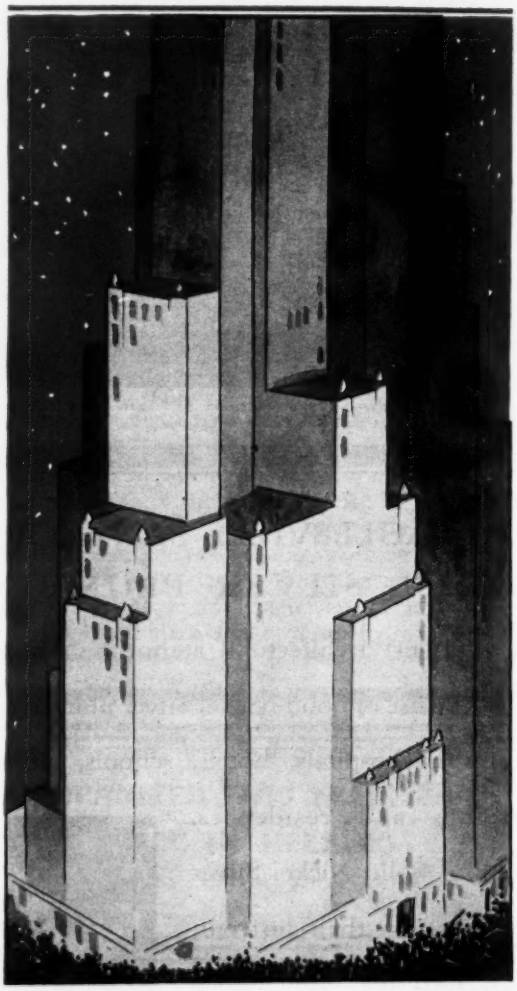
THE EAGLESVILLE SANATORIUM... EQUIPPED WITH SOLID NICKEL SILVER PLUMBING FIXTURES BY DOUGLAS

ACCEPTED architectural authorities favor the use of Solid Nickel Silver plumbing fixtures in hospitals, hotels, schools, office buildings and residences. Beautiful Solid Nickel Silver fixtures retain their lustrous, clean-looking appearance under hard use. They resist corrosion, the action of acids and cleaning compounds... they do not chip, mar, craze or discolor during installation or use. Because Solid Nickel Silver fixtures possess hardness, toughness and strength equal to tough bronze, they provide unusual wear-resistance in valve seats. For installations where enduring beauty and practical wearing qualities are of prime importance, plumbing fixtures of Solid Nickel Silver are equalled by no other available type of sanitary equipment.

18% 22 Nickel SILVER

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

UNSEEN *after the* BUILDING *is* FINISHED



but can they be FORGOTTEN?

PIPES are the arteries of every building—upon them rests a vitally important responsibility. Locked up between walls of brick, steel and plaster, every length of pipe must be perfect—a single leak may cause not only great expense but reflect seriously on the judgment of the plumbing contractor who installed it.

No one knows more thoroughly the great importance of good plumbing pipe than the manufacturers of "Spang" Steel Pipe. No pipe is more carefully made and more rigidly inspected—a policy of quality manufacture that has established "Spang" in the abiding confidence of generations of master plumbers.

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SPANG
WELDED STEEL PIPE

THE TRADE

News of Plumbing and Heating Contractors

Michigan Convention Will be Held at Jackson

More than 1,000 members and guests of the Michigan State Association of Plumbing and Heating Dealers are expected at Jackson, Mich., on March 25, 26 and 27, when the state convention of the organization will be held at the Hotel Hayes.

An important subject to be discussed at the coming convention is the new state plumbing law, which provides for the licensing of plumbers, the supervision and inspection of plumbing and adoption and enforcement of standards set by the state commissioner of health. Charles Culver, state representative of the association, will lead the discussion.

L. A. Cornelius, president of the Wolverine Brass Works, Grand Rapids, Mich., and chairman of the advisory council of plumbing, will be another speaker. Others of the advisory council to attend are W. A. Johnson of Kalamazoo, and M. Backus, Ann Arbor.

◆

Washington State Convention to be Held at Seattle

The Washington State Master Plumbers' Association has selected May 23 and 24 as the dates for its annual convention, according to an announcement just received from C. G. Tengenfeldt of Bellingham, state president. This year's convention is to be held at Seattle. The other officers of the Washington state association are: H. L. Patten of Spokane, vice president; J. B. Moncur of Everett, treasurer; B. M. Richards of Everett, secretary.

◆

Oregon Sets Convention Dates

The annual convention of the Oregon State Master Plumbers Association is to be held on May 9 and 10 at Tillamook, according to an announcement just received from A. L. Williamson of Eugene, president of the state association. The Tillamook hotel has been selected as convention headquarters.

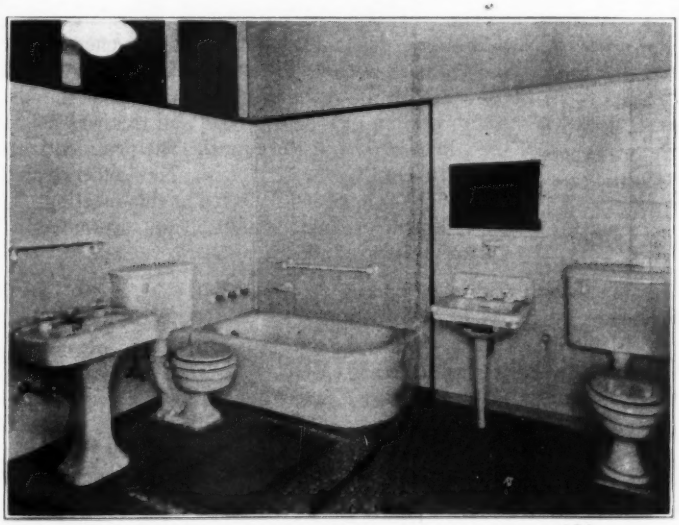
W. F. Finnegan of Portland is state vice president, P. S. Chase of Eugene, secretary, and T. J. Rowe of Portland, treasurer. J. R. Widmer of Portland is the past president director.

◆

H. & P. Contractors Will Hold National Convention in New York City

While complete details of the program of the Heating and Piping Contractors National Association are not yet available, announcement has been made that the forty-first convention is to be held June 16 to 19 at the New

View of Attractive Showroom in Pittsburgh



THE accompanying photograph affords a view of a section of an up-to-date showroom maintained by Reynold Busse at 130 Wabash avenue, Pittsburgh, Pa., and presents an excellent example of a modern merchandising aid.

Yorker hotel, New York City. In an effort to commemorate the first meeting of the fifth decade, those in charge are formulating plans designed to make it the outstanding event in the heating industry.

Robert B. Miller, president of the Heating and Piping Contractors New York City Association, has appointed the following committees to handle the detail that arises in connection with the national meeting. Finance and executive committee: R. D. Williams, chairman; A. E. Anderson, L. K. Berman, R. C. Purvis, Charles Schneider and E. W. Verity. Entertainment committee: W. J. Olvany, chairman; W. D. Emery, A. W. Dovel, W. H. Johnston, R. D. Williams and R. A. Wolff. Hotel and program committee: W. F. Geoghegan, chairman; J. R. Alpine, T. F. Hall, W. W. Hubbard, J. E. Rutzler and H. R. Stern. Transportation committee: G. M. Scott, chairman; L. G. Kirk and W. J. Olvany. Manufacturers' committee: W. G. Le Compte of Jenkins Bros., J. Barnum of American Radiator Co., Charles Miller of H. B. Smith Co., P. R. Mork of Crane Co., and Homer Addams of Kewanee Boiler Co. Jobbers' committee: W. B. Philipbar of M. E. Conran Co., E. F. Keating of E. F. Keating Co., and G. L. Kumpf of Dimock & Fink. Mr. Miller is an ex-officio member of the first three committees. The choice of the New Yorker with its 2,500 rooms and every modern facility assures the physical comfort of the guests during the convention and the committee in charge is making ample provision for the proper entertainment of the delegates.

The educational department of the national association reports that the welding manual is fifty per cent completed and that it will have a good bit of data ready for inspection at the time of the annual meeting. The committee on standards also is at work on a new edition of the Engineering Standards, which will be an enlarged book. The chairman of that committee, Ralph S. Franklin of Boston, promises an interesting report on designing heating systems according to the national association standards.

◆

Heating Board of Trade Elects Officers

Meeting for the first time on February 28 at the Building Trades club, New York City, the members of the Heating Board of Trade of New York City elected the following officers: President, Werner Nygren, consulting engineer; vice presidents, R. A. Wolff of Wolff & Munier, Inc., Charles E. Lawrence of Bishop & Babcock Sales Co., and A. P. Keasbey of R. A. Keasbey Co.; treasurer, P. T. Mork of Crane Co.; acting secretary, W. E. Taylor, executive secretary of Heating and Piping Contractors New York City Association.

The board of governors selected is as follows: representing the consulting engineers—Werner Nygren; A. L. Jaros, Jr., of Jaros & Baum; J. G. Eadie of Eadie, Freound & Campbell. Representing the contractors—R. A. Wolff; R. B. Miller of Miller & Brady, Inc.; J. L. Murphy of J. L. Murphy, Inc. Representing the sub-contractors—Kennedy Duff of Johnson Service Co.; A. P. Keasbey; B. W. Bennett of Charles Hartmann Co.

Representing the manufacturers—John Ney of American Radiator Co.; S. C. Carrier of Heggie-Simplex Boiler Co.; Charles E. Lawrence; William G. LeCompte of Jenkins Bros.; R. H. Carpenter of Nash Engineering Co. Representing the jobbers—P. R. Mork; Milton Goldsmith of Samuel S. Glauber, Inc.; E. F. Keating of E. F. Keating Co. Representing the utilities—S. T. Head of Consolidated Gas Co.

This meeting was the culmination of a mass meeting of representatives of the heating industry that was called by Mr. Taylor on October 8, 1929, at which a committee of fifteen was appointed with Mr. Mork as chairman to work out a method of forming the board. After three months of effort, during which all angles of the proposition were discussed by the committee, a report was presented at a subsequent meeting on January 8, when approval of the formation of the board was decided upon. The selection of officers was made at the February 28 meeting with approximately 75 per cent of the entire membership present.

The board of governors is now busily engaged in studying its program and a special committee under the chairmanship of R. H. Carpenter has been appointed for the purpose of selecting an executive representative to take charge of this work.

All contractors who do heating and ventilating work regardless of any other business are eligible for membership and are cordially invited to make application for the reason that the present membership is more or less considered as a charter membership. In view of the fact that it is only approximately 20 per cent of those who will be interested, the present officers are elected for a period of approximately eight months, or until December 1, 1930, when provisions of the constitution and by-laws affecting elections will be applied to the larger membership which it is expected will be enrolled by that time. The enrollment fee is at present $25, and any information concerning the board is obtainable through Vice President R. A. Wolff.

◆

London Engineers Hold Annual Meeting

The Institution of Heating and Ventilating Engineers of London, England, held its annual general meeting at the Holborn Restaurant, on February 12. The meeting opened with the reading of the minutes of the last gathering, held on October 8, 1929, and this was followed by the annual report of the council. The presidential address was delivered by E. R. Jones. New officers and members of the council were elected at this meeting. J. Lindsay Kinnell, associate member, was presented with the bronze medal of the institution.

◆

Will Speak Over Radio on April 1

L. A. Harding of Buffalo, N. Y., president of the American Society of Heating and Ventilating Engineers, will speak over a coast-to-coast network, including Westinghouse Stations KDKA, WBZ, WBZA and KYW, on Tuesday, April 1, at 10:00 p.m. Eastern Standard Time. The subject of his talk will be "The Romance of Air Conditioning."

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NATIONAL Control

of dampers, centered in METAPHRAM DAMPER REGULATORS provides constant, gradual movement of draft and check dampers to compensate for changing heat demands.

There is a METAPHRAM DAMPER REGULATOR for every domestic heating boiler.

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STOCKHAM
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CAST IRON
Screwed—Flanged
Drainage—Sprinkler

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MALLEABLE
Standard—Extra Heavy—Hydraulic
Oil Country

STOCKHAM PIPE & FITTINGS CO.
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Stocks in Boston, New York, Chicago, Houston, Los Angeles

WARNOCK Triple Wear Wrenches

Buying Warnock Triple Wear Wrenches is like buying anything else that's really good. You don't have to think about new wrenches again for just three times as long. That's something, isn't it? From your jobber or write direct.

WARNOCK MFG. CO.
Worcester Massachusetts

North Carolina Convention Plans Progressing

Plans for the twentieth annual convention of the North Carolina Association of Plumbing and Heating Contractors are progressing satisfactorily and the two-day meeting is expected to yield much of value to the delegates attending. Concord has been chosen as the convention city, and the date settled upon is May 28 and 29. Concord is situated about twenty-two miles from Charlotte, and has a new hotel, assuring ample accommodations for convention visitors.

A half-day of the convention will be given over to the North Carolina Plumbing and Heating Educational Bureau, to acquaint the members with the nature of the work done by the bureau since its inception in January, according to Hugh S. Ritchie, of Albemarle, president of the state organization.

◆

Montana Convention to be Held at Boulder

The Montana Master Plumbers Association will hold its annual convention at Boulder on April 19, with headquarters at the Boulder Springs hotel. Those in charge of arrangements look for a good attendance at this year's meeting. The officers of the state association are: A. A. Pinski of Great Falls, president; Walter Tillman of Shelby, vice president; E. F. Kuschke of Billings, secretary treasurer.

◆

Westchester County Association Will Hold Annual Entertainment

The Master Plumbers' and Steamfitters' Association of Westchester County, New York, is giving its annual entertainment and dance on April 26 at Liberty hall, New Rochelle, N. Y.

◆

Nassau County Masters Will Hold Dinner

The Master Plumbers' Association of Nassau County, Long Island, N. Y., has set March 29 as the date for its fourth annual dinner. The affair, in charge of William J. Bloeth, is to be held at the Elks club, Freeport, L. I.

◆

Bronx Association Employs Field Secretary

The Master Plumbers' Association of the Bronx, New York City, has acquired the services of Fred Schmalstich as its full time field secretary and has established a permanent office in the Kaplan building, Arthur and Tremont avenues, in that borough. Mr. Schmalstich, who is a master plumber, has been enthusiastic in his efforts in the interests of his association for many years.

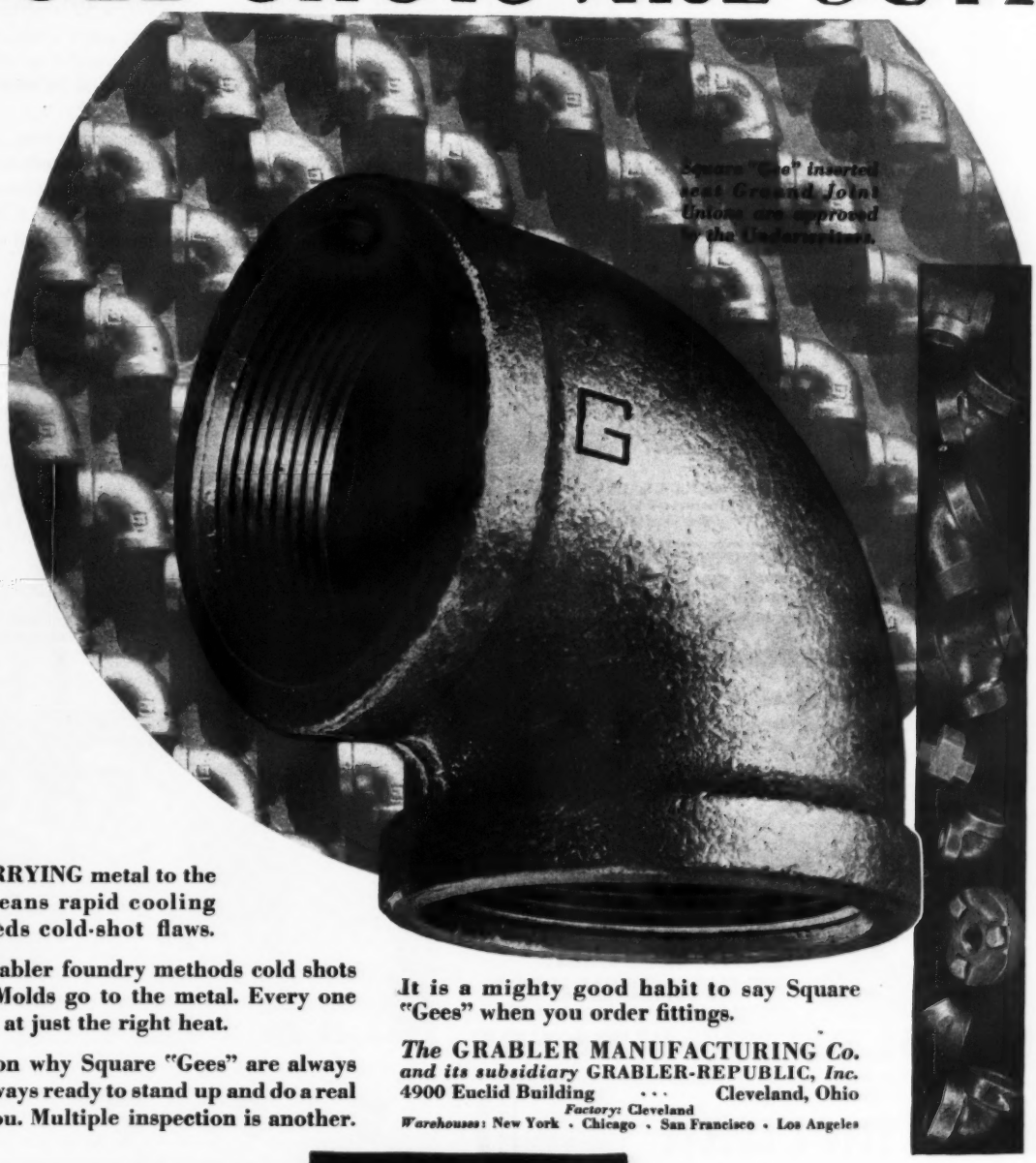
◆

Virginia Plumbing Code Defeated in Legislature

After having passed the senate and with prospects bright for passing the house, the Virginia State Plumbing Code, senate bill No. 170, was defeated when it came up before the house of delegates on March 5. Despite the effort of the proponents, the bill went down in defeat in the tide of opposition.

Although the bill was defeated, some significant facts remain, chief of which are that the state department of health is behind the purposes of the bill; more headway was made this year than ever before and success

COLD SHOTS ARE OUT!



CARRYING metal to the molds means rapid cooling that breeds cold-shot flaws.

Under Grabler foundry methods cold shots are out! Molds go to the metal. Every one is poured at just the right heat.

One reason why Square "Gees" are always alike—always ready to stand up and do a real job for you. Multiple inspection is another.

It is a mighty good habit to say Square "Gees" when you order fittings.

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Abingdon, Illinois

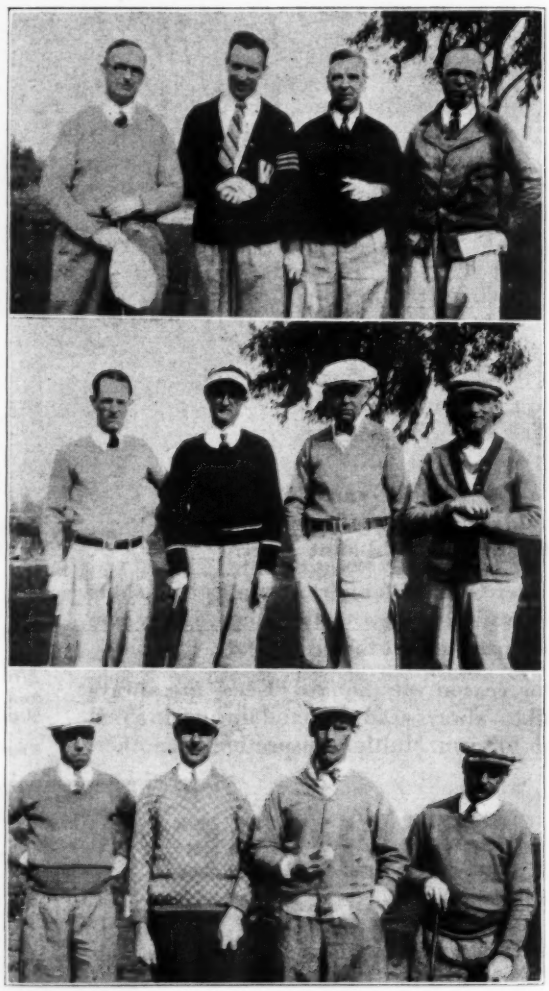
almost seemed attained; there is a greater feeling abroad that it is posssible to break through suspicion and prejudice and enact legislation designed to protect the health of the citizens. A Virginia legislative body sitting in the same place less than a century ago thought that even a bathtub was dangerous and tried to tax it out of existence.

◆

Pittsburgh A. S. H. V. E. Discusses Boiler Rating Code

The Pittsburgh Chapter of the American Society of Heating and Ventilating Engineers devoted most of the time of its February meeting to a discussion of the "Code for Rating Steam Heating Solid Fuel Hand-fired Boilers," with almost every member having an opportunity to express himself.

The speaker for the March 10 meeting was F. A. Gunther of the Direct Control Valve Co., Chicago, whose subject was, "The Economic Use of Steam in Modern Buildings."

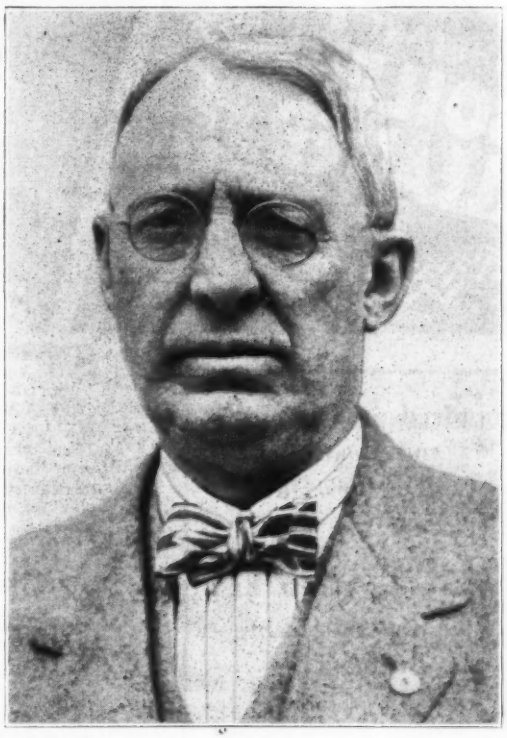


Top row: H. G. Brown, Carl J. McCarthy, William Turner and David Turner. Middle row: B. G. Harris, H. Porter Wilson, Ross M. Clark and J. V. Young. Bottom row: A. G. Atwood, Jack Camp, R. P. Olsen and Emile Heymans. Photos taken at a recent tournament of the Plumbing and Heating Club of San Francisco

ALFRED C. EYNON, treasurer of the National Association of Master Plumbers and its president in 1911-12, died suddenly March 11 at his home in Canton, Ohio. His success as a plumbing contractor, his prominence in Canton's civic, political and fraternal activities and his years of effective leadership in local, state and national association affairs, combine to make his passing a cause of regret to many hundreds throughout the industry. In many expressions of appreciation came frequently the comment that Mr. Eynon was one of the best known and respected master plumbers in the country, a respect won both by his ability and his character.

His death followed only a few weeks after that of National President John A. Quinn, who died at Philadelphia on January 24.

Alfred C. Eynon
1859-1930



Mr. Eynon was 71 years old, having been born in St. Catherine's, Ont., on Sept. 4, 1859. He later lived in Thorold, Ont., where he began to learn his trade at the age of 17. He moved to Cleveland, Ohio, in 1881, and to Alliance, Ohio, in 1882, where he worked for the Oby & Love Co. Shortly after his marriage to Nellie V. Haun in 1887, he moved to Canton, Ohio, and formed a partnership with George Oby. A few years later he bought out his partner's interest and changed the name to the A. C. Eynon Plumbing Co., which is now in its 43rd year.

He was stricken Monday night, but was able on Tuesday morning to discuss business affairs with his sons. During the few minutes while one of his sons was in another part of the house, his sudden death occurred. Mrs. Eynon, also known to many in the industry, died only nine months ago. Three sons, George, Chester and Walter, two sisters and a granddaughter survive. Two of the sons are active in the A. C. Eynon Plumbing Co.

In civic and political affairs, Mr. Eynon had shown the same attitude of loyal and effective co-operation which brought him advancement in business and in association activities. He was chairman of the county Republican committee for many years, on President McKinley's staff in the 1896 campaign, and president of the Board of Trade of his city, and later of its successor, the Canton Business Men's Association. He belonged to the Masonic lodge, to the Knights of Pythias, and at his death was president of the K. of P. association, owner of the Northern Hotel at Canton. He was a member of the Welsh American Society, of the Knights Templars, of the Scottish rite 32nd degree, of the Shriners, and of the First Methodist Episcopal church of his city.

He led in organizing the Canton Master Plumbers' Association, was president and director for many years of the Northwestern Association of Master Plumbers, was president and director of the Ohio State Association of Master Plumbers, and in 1910 was elected national vice president, and in 1911, at the Galveston, Tex., convention elevated to the presidency of the National Association of Master Plumbers. He was chosen as national treasurer at Louisville, Ky., in 1926, and re-elected at each succeeding convention. He had served the national association in the capacity of director and

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committee member for many years, his most recent activity being for several years as a member of the trade relations committee and as a representative on the board of directors of the Plumbing and Heating Industries Bureau.

At his funeral, held March 14, representatives of the national, state and local associations were present, including Acting National President George H. Drake; National Secretary Maney J. Feeney; former President E. D. Hornbrook; National Director A. H. Snyder; State President W. H. Grabowski; Vice President E. B. Kleine and Secretary Eb. Ellen; President Walter Klie of the Heating and Piping Contractors National Association, and many friends in association work from Cleveland, Youngstown, Columbus, Dayton, Cincinnati and other Ohio cities.

An appreciation read at the services contained the following: "Mr. Eynon harbored the highest ideals and was utterly unselfish. He gave countless hours of his time, thought and energy to worthy civic movements, fraternal affairs and for charity causes. He never failed in doing his duty instantly and without urging when it came to giving his time, ability and money. He had a full life, enjoying every minute of his three score and ten years. Always blessed with wonderful health and a beautiful disposition, fair and just always to those who at times might not have agreed with him, yet he commanded their respect. He never was charged with being unfair. He took great pride in doing well everything he undertook. Good workmanship in his business meant more to him than anything else. He guarded jealously his reputation in the business to which he devoted his life. His fairness in the treatment of his employes is borne out by the fact that two of his men have been with him for almost 40 years and any number of men for 10 to 30 years. He gained their confidence and respect which meant loyalty to him and his organization."

◆

Midwest Bituminous Coal Conference Set for April

A tentative program has been announced for the coming Midwest Bituminous Coal Conference, which is to be held at Purdue University, Lafayette, Ind., on April 9, 10 and 11. The conference is sponsored by the Engineering Extension Department of Purdue University, the Coal Trade Association of Indiana and the Illinois Coal Bureau, representing Southern Illinois producers, in collaboration with the Fuels Division of the American Society of Mechanical Engineers. This conference is to mark the beginning of a series of similar annual meetings, alternating between Purdue University and the University of Illinois.

Subjects of interest planned for various sessions of the conference include discussion and presentation of mechanical devices for burning Illinois and Indiana coal for domestic and semi-industrial application; a discussion of the topic, "Reconditioning of Existing Plant to Burn Indiana and Illinois Coals Economically and Smokelessly," and an address on the subject of "Co-operation Between Organized Producers and Retailers."

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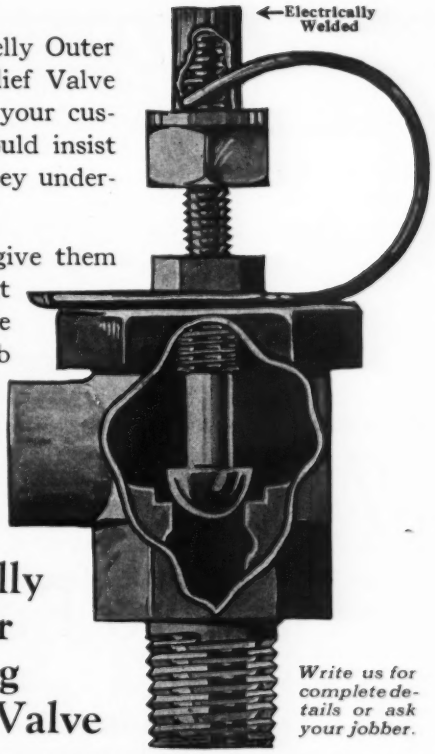

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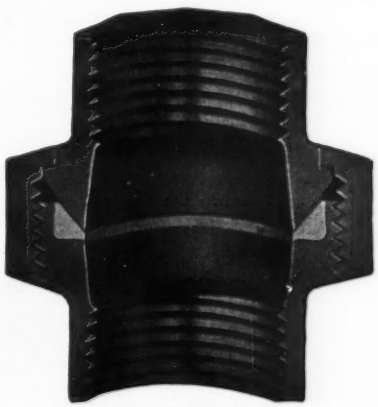

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Manufacturers Full Line Iron Pipe Fittings

Top left: Earl L. Clevenger of Muncie, newly elected president. Top right: Arthur Lahr of Lafayette, retiring president. Lower left: Victor C. Knauth of Vincennes, vice president. Lower right: Max Baker of Muncie, secretary-treasurer

INDIANA

Plans to Employ Field Secretary

Dues raised to provide necessary funds; E. L. Clevenger of Muncie, elected president

PLANS were laid at the thirty-fourth annual convention of the Indiana Society of Sanitary Engineers, held at Fort Wayne on March 10, 11 and 12, for the employment of a permanent secretary for the state association. The part played by the utility companies in the sale of gas water heaters and other appliances came in for discussion, with talks by representatives of these companies as a part of the program. Included on the program were talks on almost all business subjects of general interest and, as President Arthur Lahr of Lafayette expressed it, the program had been arranged "to give a panorama view of the situation in the entire industry."

Upon the recommendation of President Lahr, a resolution was adopted to continue the zone system of organization in force during the past two years. Another resolution was adopted to the effect that a "plumbers' bill" be presented before the legislature calling for the appointment of state plumbing inspectors.

The proposition having to do with the employment of a permanent state secretary was one of the recommendations contained in the annual report of the president and it provoked considerable discussion before being adopted. Briefly, the secretary will take charge of the state office, field activities and edit the state publication, under the direction of the president and board of directors. The plan also called for an increase in the state dues and, further, that the sum heretofore set aside monthly for the use of the president be discontinued and added to the fund for financing the permanent secretary.

In the discussion that followed it was pointed out by President Lahr that after the fixed expenses on each member's dues had been paid only a small sum was left for other activities by the state. He said that if any other former president had had a scheme like this one to work with better results would have resulted and the work of the president would have been lightened. He pointed out that in one year he had given 74 days to association work away from his office. He feels that most of the members lost last year would have been retained had there been a field man to make personal contacts. He said the proposition had come before the association for a number of years and urged the members to go through with it this time.

Victor C. Knauth of Vincennes said that as a journeyman he paid dues of thirty cents per week and that in his estimation it was high time the masters raised their standards and increased their association dues.

H. A. McAuliffe of Indiana Harbor expressed himself as highly in favor of employing a permanent secretary, saying that the move was essential to the welfare of the members.

Henry C. Heuck of Gary, in a short talk, asked that the resolution be adopted and a good field man employed.

Earl L. Clevenger of Muncie, chairman of the resolutions committee, said that the reason the committee had not favored the resolution was that it did not feel the proposed increase in the dues was sufficient to meet the secretary's salary.

J. H. Daniels of Gary also felt that a change was needed in the financial set-up and that a permanent secretary was needed. He did not feel, though, that the new president should be burdened with employing such a man with insufficient funds. He favored

letting the officers and board of directors work out a plan for presentation at the next convention.

President Lahr's Report

In his annual message President Lahr reported progress for the association, despite the fact that business conditions were poor in the state during the year. As a result, membership in the association has fallen off, but he remarked that those members who continue to maintain their affiliation seem to have doubled the scope of their activities. On that account, he remarked, there has been no slackening during the year in the organization's activities.

During the year House Bill 218 was adopted by the state legislature as a law. The purpose of this bill is to provide a law for the enforcement of the state plumbing regulations. Since its passage, Mr. Lahr said, there have been many inspections over the state and the department of public health is working hand in hand with the local groups of master plumbers. He stressed the importance of having a local code in each town in the state, adding

Top picture: Otto Leykauf and Harry Beck, both of Fort Wayne. Middle picture: Claude McElwaine and Norman Ascher, both of U. S. Radiator Corp., and Pacific Steel Boiler Corp., Indianapolis. Bottom picture: L. C. Leimkuehler, Copper & Brass Research Association, St. Louis; F. E. Trosky, Indianapolis

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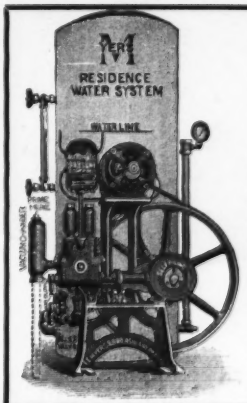

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that South Bend and Gary are two cities that have used this method with excellent results.

Mr. Lahr explained that at the first meeting of the board of directors the state was redistricted according to the recommendations of Victor L. Peavy. This was done to make the state more compact and easier to handle. Chairmen, to serve on the board of directors, were appointed for each district. The following men were appointed: Victor Knauth of Vincennes, district 1; W. G. Hoffman of French Lick, district 2; Frank E. Irish of Indianapolis, district 3; J. H. Niewohner of Richmond, district 4; A. V. Sampsel of Peru, district 5; Harry E. Shreiner of Elkhart, district 6; H. A. McAuliffe of East Chicago, district 7.

He explained that the system of zone meetings had been continued with excellent results and that meetings were held in each district. President Lahr emphasized the importance of these meetings and urged that they be continued. He referred briefly to the state-wide meeting held at Indianapolis on September 19. Mr. Lahr closed his report with a number of recommendations regarding a state field man, the Quarter Century Club, the State legislative program and the zone system, all of which were referred to the resolutions committee. The action taken on these recommendations by the convention is referred to in another part of this story.

New Officers Are Elected

Earl L. Clevenger of Muncie was elected president of the association, succeeding Arthur Lahr. The office of vice president was awarded to Victor C. Knauth of Vincennes, a member of the state board of directors under President Lahr. Max Baker of Muncie was elected secretary-treasurer and O. H. Hoff of Brazil was elected sergeant-at-arms.

Left to right: G. T. Watson, executive secretary, Indianapolis association; O. H. Hoff, Brazil; Earl R. Cass, state director, Lafayette

J. H. Daniels of Gary and Arthur Lahr were elected delegates to the forthcoming national convention at Boston, Edward Kanney of La Porte and Harry Hattersley of Fort Wayne being alternates.

The Indianapolis local, through Frank Irish and Roland Cotton, invited the convention to come to that city next year.

Committees Are Appointed

The following committees were appointed by President Lahr to handle the convention's business:

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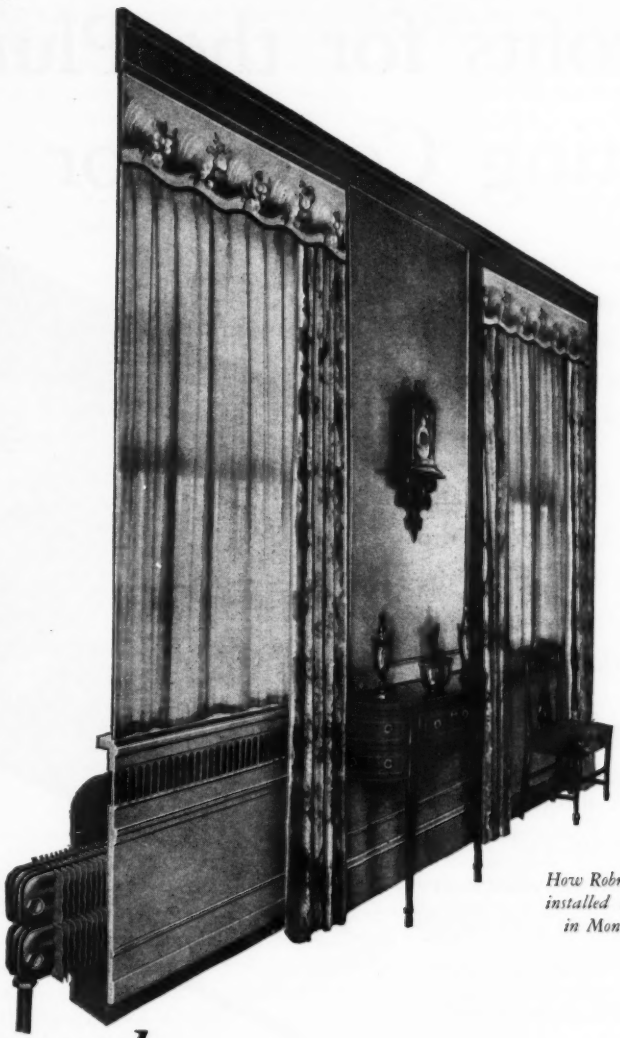

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They're 20% the size and 20% the weight of equal cast-iron radiation. Two men can install four or five times as many in a day. They're far easier to handle. The profit possibilities are so much greater.

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Resolutions—Earl L. Clevenger of Muncie, James H. Daniels of Gary and John Freitag of Terre Haute.

Auditing—W. H. Meerhoff of Richmond, Elmer Wiebke of Indianapolis, Victor Knauth, Vincennes.

Memorial—Edward Kanney of La Porte, William Whitehead of Logansport and A. B. Wetherill of Muncie.

Nominating—James Rae of La Fayette, Frank Irish of Indianapolis and Thomas J. McGrath of South Bend.

Credentials—Albert Rolf, Jr., Anton Haberstock and J. H. Hipskind, all of Fort Wayne.

Press—Arthur Ehrman of Fort Wayne and E. L. Peffer of La Fayette.

Conference—Roland Cotton of Indianapolis, Charles Wissel of Terre Haute and C. M. Oberlin of South Bend.

J. H. Niewoehner of Richmond was appointed reading clerk.

The Opening Session

The convention was called to order by Arthur Ehrman, president of the Fort Wayne association, who acted as temporary chairman. After the singing of "America," Mr. Ehrman introduced the Reverend Kruass of Fort Wayne who said the invocation. Mayor William Hosey of Fort Wayne attended the opening session and extended a warm welcome to the visitors. Mrs. H. E. Shreiner of Elkhart, president of the state auxiliary, spoke briefly for the ladies.

Another speaker was Dr. Carl Miller, chairman of the Fort Wayne board of public health, who spoke on sanitation. He referred to sanitary conditions in China as compared to conditions in this country, which, he said, emphasized the importance of the master plumber. He feels the master plumber should stress the need of plenty of running water. In closing he said the board of health needed the support of the plumber and, by securing it, he feels that medicine will have made a great stride.

The Quarter Century Club

A feature at this year's convention was the inauguration of the Quarter Century club, composed of those men or firms, who have been members of the Indiana Society of Sanitary Engineers for twenty-five or more consecutive years. Each of the eligible members of the club was presented with an engraved certificate by President Lahr, but before doing so he complimented the group for the splendid work they had done in behalf of the association. Following is a list of the members of this honorary organization:

Earl L. Clevenger of Muncie, J. A. Gallivan of Muncie, H. H. Highlands of Gary, Freitag, Weinhardt & Co. of Terre Haute, Prox & Burget Co. of Terre Haute, W. H. Beeler of New Albany, J. A. Diggle of Indianapolis, Hayes Bros. of Indianapolis, W. H. Meerhoff of Richmond, Stanley Plumbing and Electric Co. of Richmond, C. R. Saberton of Evansville, Williams Plumbing Co. of South Bend, Edward Kanney of La Porte, Lane-Pike-Werkhoff Co. of Lafayette, Wm. Whitehead & Son of Logansport, Graf & Schmidt of Logansport.

Not all of the members were on hand to receive their certificates, but a number of those who were in attendance responded to the request for a few remarks.

Mr. Meerhoff said he was a charter member of the Indiana association, having belonged for thirty-four years. He said Richmond was one of the first locals in the state, and that the first years of the state association were equally as active and interesting as today. He remarked that one of the greatest objects in the early days was standardization of materials.

Mr. Clevenger, who has been a member of the organization for thirty-two years, remarked that conditions in the early days were very unsettled. He feels that all three branches of the industry are now making a definite attempt to work together.

Mr. Freitag, who is also one of the members of longest standing in the association, drew a comparison of present day conditions with the time he first joined the organization. Mr. Gallivan followed with a brief talk along the same lines.

Mr. Kanney said he became a state member on February 26, 1904, and that he had been a member of the National Association of Master Plumbers since April 7, 1896. Mr. Kanney brought with him

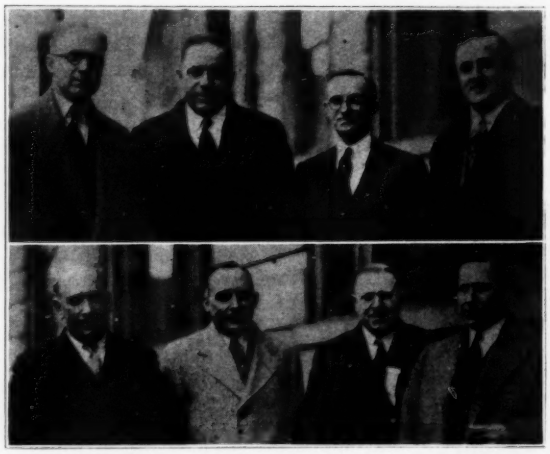
Picture taken at annual banquet of Indiana Society of Sanitary Engineers

to the convention his framed certificate of membership in the national. Mr. Kanney was president of the Indiana association for two terms.

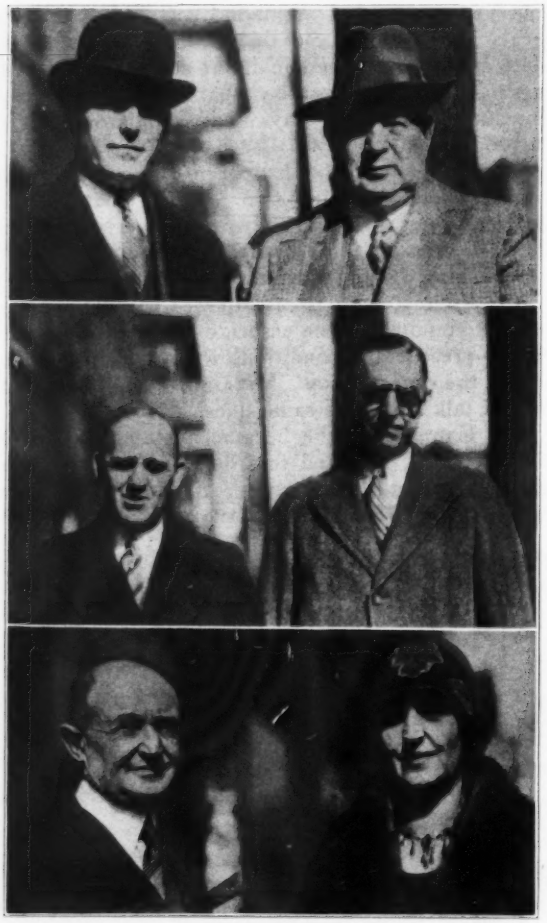
Speaks for Bureau

E. L. Flentje, manager of the Plumbing and Heating Industries Bureau, Chicago, opened his convention address with the statement: "We are in a very serious business and aren't going to get any place without facing the facts." He said the industry was in the same frame of mind as the peasants who live at the base of Mt. Vesuvius—always fearful of something happening. However, he does not feel that the changes taking place in business are anything but natural, adding that business follows natural laws and it is impossible to change its economic trends.

Mr. Flentje said he was amused at the way the industry is smitten with the value of words, adding that those in the business should not be deluded by the word "co-operation." He said "co-operation" is an end and not a means. Continuing, he said, in part: "Co-operation is not the solution of our problems. We must individually and collectively fight the menace. Don't think because doctors say you are guardians of health that the public thinks the same." Mr. Flentje referred to an instance where a certain state was all set to have a plumbing code when suddenly the newspapers and the public killed it through lack of understanding of the purpose of the code. He urged his listeners not to try and fight the mail-order competition on the false premise that the public is sold on the idea that the plumber protects the health of the nation.



Top picture: R. E. Bower, P. and H. Supply Co., Ft. Wayne; S. F. Callander, Nappanee, Ind.; F. G. Harlan, United Supply Co., Ft. Wayne; C. B. Grothouse, P. and H. Supply Co., Ft. Wayne. Bottom picture: F. A. Johnson, Mishawaka; F. W. Forward, Kellogg-Mackay Co., Elkhart; Ray T. Wood, Central Brass Mfg. Co., Cleveland; R. E. Bidwell, vice president, Kellogg-Mackay Co., Chicago



Top picture: Russell G. Creviston, Crane Co., Chicago; Col. W. G. Archer. Middle picture: Robert Spice, Ft. Wayne; J. H. Sonskey, Detroit, Mich., both of Central Specialty Co. Bottom picture: Mr. and Mrs. Edward Kanney of La Porte

The speaker talked at some length on the subject of distribution and he remarked that the market for plumbing and heating goods has its limits just like any other commodity. He stated that the only man who has a chance to make a success this year is the one who goes in for remodeling work. He said the competition on new work available will be extremely keen for any kind of a profit for the average master plumber.

Mr. Flentje expressed the opinion that the day of authorized dealership is just on the horizon. But its being on the horizon, he said, is not going to help the industry today. He feels that the credit problem is a national one and should be treated so. He said if credits were handled locally it was only natural that disturbed conditions in one town would quickly be reflected to the neighboring community.

Other Resolutions Are Passed

A number of resolutions other than those referred to in various parts of this report were adopted by the convention. One made the Quarter Century club a permanent organization, with the provision that new members be taken in when they have completed twenty-five years continuous membership in the state association.

It was also decided in the form of a resolution that the incoming board of directors proceed with a legislative program, appointing a committee to draft the necessary legislation to further advance

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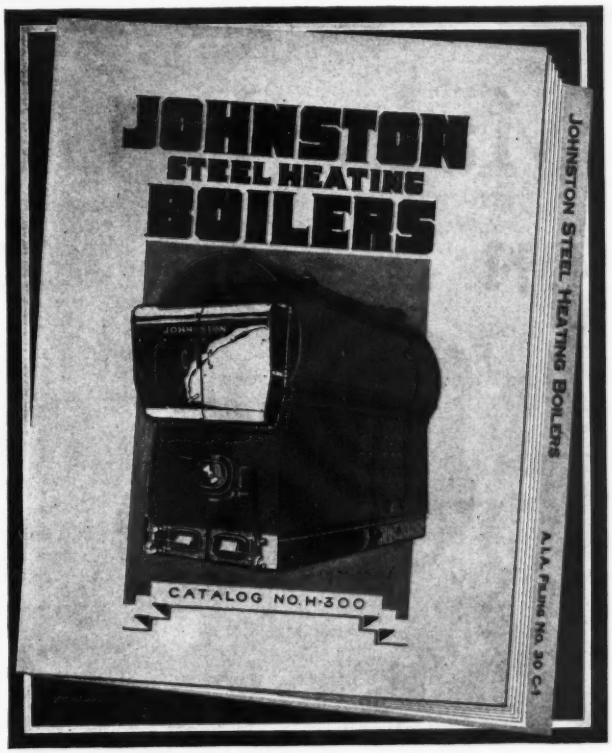

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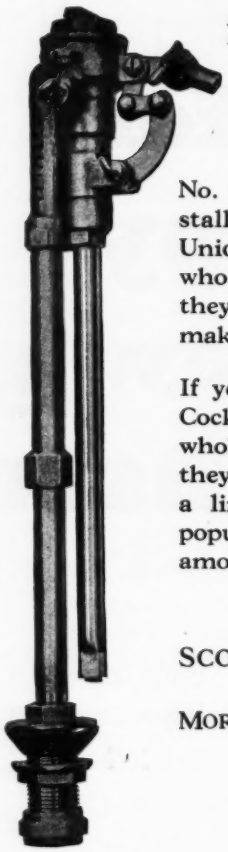

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WHERE competition is keen or where standard prices prevail, one plumber generally charges about the same as another for a ball cock job.

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the cause of sanitation in the state. An amendment to this resolution called for meetings with other groups in the industry to discuss this subject.

A resolution was also adopted to the effect that in the future the representatives of the trade press should be the guests of the convention and admitted free of charge to all of the various functions to be held.

Another resolution was passed calling for the appointment of a committee to attend the forthcoming convention of the American Water Works Association.

In still another resolution it was voted to eliminate the publication of the names of the association members in the state publication. However, the names of the president and secretary of each of the locals will continue to be printed.

The memorial committee, of which Edward Kanney of La Porte was chairman, submitted a message of condolence on the death of John A. Quinn, a copy to be sent to the late president's family and also to the national office.

Abner E. Werkhoff of Lafayette, Dillard R. Ramsey, Clinton Hayes and James J. Clark, all of Indianapolis, were those mentioned in the report of the memorial committee. Messages of condolence are to be sent their families.

Russell G. Creviston Talks

Russell G. Creviston of Crane Co., Chicago, one of the principal speakers on the program, said that in his opinion there was never a time when the need was greater for co-operation between retailers, manufacturers and wholesalers. He stated that the changes in business have been so rapid that people as individuals have not realized their importance. He pointed to the automobile, the radio and other modern inventions as some of the reasons for the changes in the living habits of people and consequently in business. He told how the large mail-order houses have adjusted their businesses to meet the new conditions.

In speaking of time payment selling he said this was one of the most important developments of this age and that it is here to stay. He said that only since the first of the year had his company adopted time payment selling.

He is of the opinion that the decline in new construction is due largely to the fact that the United States is becoming established. He feels that new construction in the future will largely be regulated by the increase in population. His opinion in regard to speculative building is that some of this will continue, but it will mainly be high grade. He feels that other speculative building will mostly be sectional. For that reason he feels that it is necessary for all three branches of the industry to learn how to do creative selling.

Mr. Creviston said he is convinced that the future of the three branches depends on a close working arrangement whereby the manufacturer, wholesaler and contractor can advise with each other as to the best methods of securing business. The speaker said: "It is up to you, your manufacturer and your

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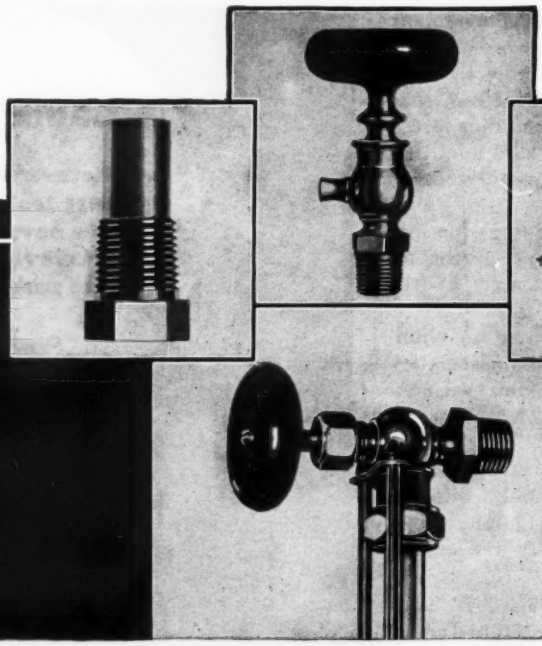

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In line with the modern trend to make the basement as good looking and as livable a place as possible, these Capitol Brass boiler trimmings are trim, neat appearing and of the best possible construction.

The pop valve has malleable iron base, considerably stronger than the usual cast iron. Brass seat is nicely ground, while the stamped case, also of great strength, is rust proofed and enameled, providing in all a very superior product. Fusible plug is made to Government standards. Water gauges and compression gauge cock are polished or rough as required and can have any kind of handles.

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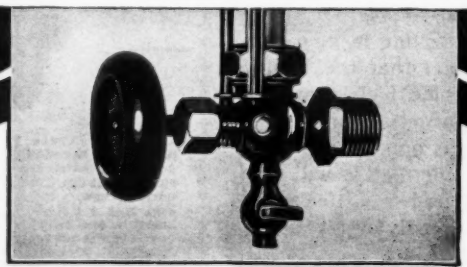

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wholesaler to work out the specific things you can do to push the sale of any certain lines."

He stressed the importance of the master plumber using his journeymen to make sales, saying they should be made to turn in a complete report of the plumbing and heating equipment in every home in which they work.

In closing Mr. Creviston expressed the opinion that the national association should appoint a committee to investigate the practical side of time selling.

Arthur Ehrman of Fort Wayne asked Mr. Creviston to suggest some way that all three branches of the industry could get together in one large meeting and discuss their problems. Mr. Creviston said that the bureau was the only place where this could be accomplished.

Edward Kanney of La Porte expressed the opinion that time payment selling in plumbing and heating is handicapped in Indiana because the state law makes the system a part of the house. Consequently, it cannot be removed without destroying part of the house.

Mr. Creviston said that to the best of his knowledge a similar law existed in practically all states, but he does not feel this enters into the sale at all. He said the home owner should be first investigated from a credit standpoint.

Col. Archer Addresses Convention

Col. W. G. Archer, formerly a representative of the Plumbing and Heating Industries Bureau and widely known over the country for his talks on sanitation, was the guest of the association at the convention. The ladies had requested the privilege of hearing Col. Archer and they assembled in the convention hall in large numbers.

In introducing the speaker President Lahr referred to him as the man who had sold more plumbing and heating goods than anyone in the world, although he was not a master plumber. As an indication of the esteem in which he is held by the Indiana association and as evidence of appreciation of his address, a resolution making him an honorary member of the organization was unanimously adopted as soon as he had finished talking.

The speaker complimented the auxiliary on the good work it had done in elevating the industry, saying that no business owed so much to its women as does the plumbing and heating industry. He told how the auxiliary could help the members of the master plumbers association. He spoke of conditions as he had seen them in the Eastern countries, stating that bolshevism would cease to exist when the world was properly housed. He said no home owner was ever known to be a red or a bolshevik.

Col. Archer had just returned from an extensive trip to South America, and he described conditions in those countries as being very unsanitary. He said, though, that Panama was as clean as could be. Col. Archer also visited Havana, Cuba, for the first time since the Spanish-American war and he said he hardly new the city. He said he had never

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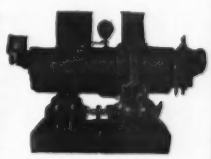

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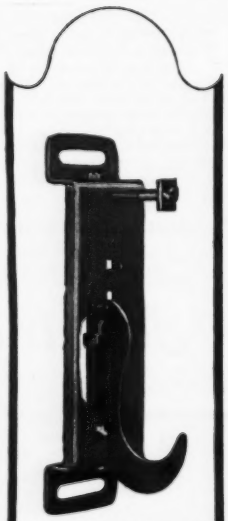

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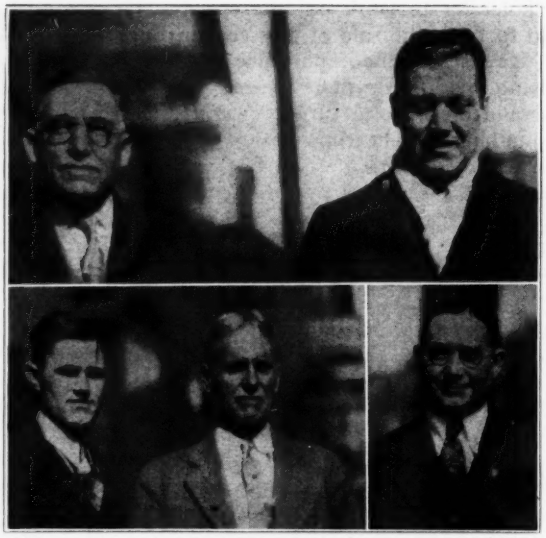

Top picture: B. L. Chamberlin, Domestic Sales Co., Ft. Wayne; I. E. Fitch, Garrett, Ind. Bottom row: L. C. Duckworth, Woodward-Wanger Co., Indianapolis; James Rae, Lafayette; J. H. Niewoehner, Richmond

visited a cleaner place and that the hotels did not even have to use screens in the windows. He attributed all of this to American sanitation.

Leon H. Curtice, secretary of the National Gas Appliances Association, addressed the convention on the merchandising of gas appliances. He mentioned four points in selling, as follows: Buying right, selling right, making a profit, and being happy in doing so. He feels it is very necessary for the master plumber to have his shop in a convenient location and to keep it clean and well lighted. He outlined a plan for inaugurating a sales campaign, stressing the danger in guessing at the volume of business available in any one territory. Mr. Curtice also gave the members some suggestions as to the things that should be considered in selecting the product they are going to sell. He urged those present to push the sale of gas appliances and to cash in on the advertising programs of the utility companies.

Entertainment

The Fort Wayne local left nothing undone to provide for the entertainment of their guests. On Monday evening a Dutch lunch was served at the Indiana hotel, with music and entertainment provided by the United States Radiator Corp., Detroit. The next evening brought the grand ball and banquet. Music and entertainment from this affair was broadcast over radio station WOWO. The evening of the third day was the scene of a theater party, followed by a dance and Dutch lunch at one of the clubs in the city.

The bowling tournament arranged by G. T. Watson of Indianapolis was voted a big success by all those who participated. The tournament was held at Scott's alleys on Monday afternoon. In the team contest of three games, high score was made by the "Ladies" with a total of 2543; second place went to

the "Boilers" with 2397; third place to the "Washers" with 2390; and fourth place to the "Valves" with 2365.

The following individual scores were made:

Clevenger	610	Woldbeiser	521
Tooley	571	Swain	518
Connaughton	545	Fox	517
Moran	525	Short	516
Boltz	525	Jansing	514
Brinkman	524		

◆

Wisconsin Masters Install Cost Systems

The campaign of the Wisconsin Master Plumbers' Association to install cost systems among its members is well under way, and Carl J. Marsh, counsel for the association, who is directing the activity, points out that there are now thirty-two standard cost systems installed and in operation.

Among those who have installed the systems since the first of the year are: L. Soergel & Sons, Joseph Wittig, Downey Heating Co., C. J. Fennig Plumbing Co., Knauer Plumbing Co., Roy Buddinger, L. J. Droese Co., J. J. Reddy, Charles W. Priegel, Max Millradt, August F. Weirauch, Loppnow Bros. and Michael Mueller, all of Milwaukee.

◆

Death of William Whiteford

William Whiteford, member of the firm of Whiteford Bros., plumbing contractors of Regina, Sask., died recently in his 61st year. Mr. Whiteford established the plumbing business, which later became Whiteford Bros., in 1907. He is survived by his wife, two daughters and a son.

◆

Thomas Sisk Dies

Thomas Sisk, for 20 years sanitary inspector of Lynn, Mass., died February 27 at the Lynn hospital of blood poisoning in his 73rd year. Mr. Sisk was a native of Abington, Mass. He was president of the Lynn Kennel club and is survived by his wife, five brothers and three sisters.

◆

Death of Frank O. Theobald

Frank O. Theobald, a partner in the J. C. St. John Plumbing & Heating Co., Colorado Springs, Colo., died recently in his home at 304 West Kiowa street. He was in his 57th year, and had been associated with the St. John company for twenty years.

◆

George Kerr's Father Dies

George Kerr of Waban, Mass., a member of the Newton Master Plumbers Association, has the sympathy of his friends in the trade in the death of his father, David C. Kerr, on February 13. A delegation from the Newton association and other members of the trade attended the funeral on February 17.

◆

Death of Theodore J. Borden

Theodore J. Borden, member of the firm of John Borden & Bros., plumbing and heating contractors, 637 North 19th street, Philadelphia, died March 3 at his home in that city. Funeral services held March 6 at Armstrong's Funeral Parlor were attended by fifty members of the Philadelphia Master Plumbers' Association.

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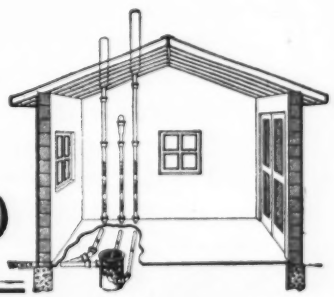

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Maine State Convention Re-Elects Neil M. Knudsen President

Neil M. Knudsen of Portland, re-elected president

Hear addresses on credits and trade practice rules; move to draft bill to establish state examining board

THE Maine State Master Plumbers Association held its twenty-sixth annual convention at Portland on March 11 and 12, meeting at the Falmouth hotel. This year's convention was voted one of the most successful ever held by the Maine state association from the standpoint of attendance, enthusiasm displayed and results accomplished.

Neil M. Knudsen of Portland was elected to head the association as president for another year. Leon Blaisdell of Gardiner was re-elected vice president and J. E. Donovan of Winthrop was again elected secretary. F. A. Haseltine of Lewiston was selected as treasurer for another term.

The Rev. Ralph Stoody, of Portland, delivered the address of welcome. Rev. Stoody feels that the relationship of the ministry is parallel to the master plumbers' work, the tools of his craft being similar by comparison to his profession. He has done extensive travelling and gave a comparison of sanitary arrangements in the United States to those of Europe. He suggests that the master plumbers read their trade papers. "The opinion of men who exchange their ideas is a very valuable gauge by which to judge our own worth," he said. "Use your association as your master gauge, inasmuch as trial and experience is very costly when one can profit by the mistakes of others," he concluded.

The President's Report

In his annual report President Knudsen thanked members of the association for the honor bestowed on him as president and the members who served on his committee during the past year for their splendid co-operation. President Knudsen told of his pleasant relations with the Maine state board of health and how Dr. Campbell had co-operated with him in every respect. He had many meetings during the year with the wholesalers and many matters of importance were adjusted. He sent letters and applications to every master plumber in the state which brought into the association quite a number of new members. Mr. Knudsen stated that he had attended the national convention in Buffalo and that it was his only regret that more of the members of the Maine association could not attend.

One of the important accomplishments during his administration was the appointment of a code committee, to remedy the many interpretations between the Maine state code and the Hoover code. On February 15, Mr. Knudsen and his committee met with Dr. Campbell of the state board of health at Augusta, and started work to adjust the many interpretations and differences between these two codes. A set of recommended changes to the Maine code has been drafted and will be discussed shortly with the Maine state board of health.

Represents National Association

Wallace T. Wordell of Taunton, Mass., a director of the national association outlined the purpose of the national convention and gave a brief review of the work and results accomplished during the past year. He also discussed the work and plans for the coming year. Mr. Wordell paid tribute to the late president, John A. Quinn, and requested that the association observe a period of silence for one minute in respect to him. Mr. Wordell said the national association was fortunate in having a man of the caliber and ability of George Drake, acting president, to carry on the work that President Quinn planned. He read a letter from C. W. Wanger, of the Woodward-Wanger Co., Philadelphia, telling of plans for

the convention. Mr. Wordell urged every member of the local association to get behind and co-operate with the officers and to make every effort to swell the membership.

P. W. Donoghue, of Boston, Mass., chairman of the national convention and exposition committee, discussed and outlined preparations for the national convention. He outlined the business, educational and entertainment programs.

J. Preston Perham of Boston, past national director, outlined the program and the results of the recent plumbing conference at Massachusetts Institute of Technology. Mr. Perham advised that the Massachusetts Sanitary Club had entered into a contract with M. I. T. for a research program during the year 1930. Also that the M. I. T. will put on a course of sanitary engineering, mechanical engineering and heating and ventilating in conjunction with the research program. This will educate the student so that he can go out into the industry with a thorough knowledge of the principles of plumbing and heating and will be qualified to open up and run a shop. There will also be a course in refrigeration and preservation of food in the home; also a course in hygiene relating to the comfort and health of the people.

Hear Joseph A. Maynard

Joseph A. Maynard of the Boston Brass Co., Waltham, Mass., and president of the Eastern Supply Association, discussed at some length credits and trade practice rules. Mr. Maynard explained that, within the last few years, the efforts of the United States government had been to eliminate the evils of our industry. He feels that the trade practice rules will do a great deal to help swell membership in the national association.

"Watch your credits," he said, "and before figuring and submitting bids, look up the credit of your client, as it will often save the contractor time and money." Mr. Maynard recommended the cultivation of the time payment plan. "People today buy their homes, their automobiles, their radios, etc., on the time payment plan," he said. "Their homes are equipped with 1890 bath rooms, antiquated heating systems, and they drive 1930 automobiles. Educate them to the time payment plan and this will automatically create new business from the old home market," the speaker concluded.

W. B. Neal of the Somerville Iron Works, Chicago, spoke of the progress being made in the soil pipe field. He explained the reason for the formation of the soil pipe association, saying that this body was planning the adoption of standard specifications for sizes and for weights.

Mr. Neal expressed the opinion that eventually the manufacturer of cast iron soil pipe will turn to one type of pipe, either extra heavy, medium or a standard size. He feels that the wholesaler, the manufacturer and the contractor will benefit by such a change, since today all three of them must carry two complete stocks of standard and extra heavy pipe.

Elmer S. Stack, consulting engineer of the association, outlined the work that had been accomplished by the engineering department in the past year. Mr. Stack stated that it was apparent from the communications he

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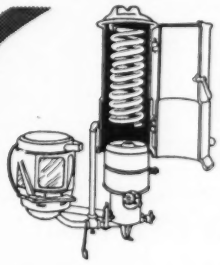

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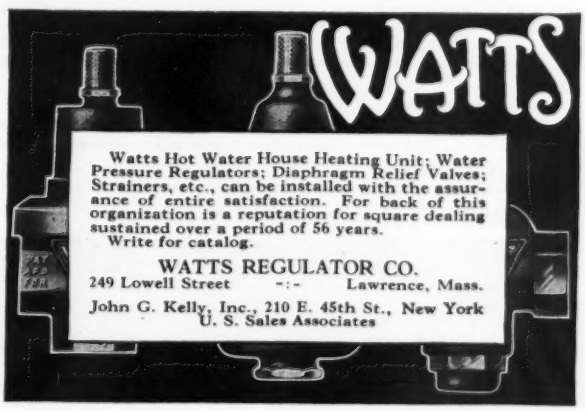
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VALVES
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are designed and built for those who have no patience with structural or mechanical defects .... Tested under pressure before shipment, *every* Jarecki Valve can be depended upon to be a perfect specimen.

Jarecki
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ERIE, PA., U. S. A.

had received that the members wanted more information regarding domestic hot water supply installations.

W. King Flavin, representing the Sloan Valve Company, Chicago, discussed the sale of flush valves by the plumbers. Mr. Flavin stated that there were three things necessary to consider when installing or correcting a flush valve installation—pressures, piping, noises.

Wallace T. Wordell of Taunton, Mass., referred to the work being done by the committee appointed by the national association in regard to trade practice rules for the contracting branch of the industry. He feels that this is one of the most important propositions that will be discussed at the forthcoming national convention. He feels that this subject alone is of enough importance to persuade every master plumber who possibly can do so to attend the convention at Boston.

He outlined the work being done by the Plumbing and Heating Industries Bureau, under the direction of E. L. Flentje, manager. He urged the members to pay their dues promptly and to go out and get their fellow contractors to join the body.

The association voted to continue its contract with Elmer S. Stack, engineer, for another year.

It was decided to draw up a resolution to have the cores in hot water house heating boilers arranged so as to provide tappings to meet the conditions existing in installing all different types of indirect heaters and fire pot generators. It was resolved that a copy of this resolution be given to the Massachusetts state association and Connecticut association, to be taken up at their annual conventions. Then the Maine association will present this resolution to the national association.

A motion was made and seconded that a committee of five be appointed to discuss and decide whether it will be advisable to draft a bill to establish a state examining board, this to be done before the next sitting of the Maine state legislature.

A motion was adopted extending a vote of thanks to the Rev. Ralph Stoody, to the National Association of Master Plumbers for sending their representative to attend this meeting, to the various committees in force during the year, and to the trade press.

The following new members were elected to the association: William E. Ryan, Augusta; D. Grover Brooks, Bethel, Maine, and R. C. Parker, Biddeford.

President Knudsen requested that association members, when desiring apprentices, call upon the University of Maine. He also requested every member to do his part in the enforcement of the state plumbing code and stated that the recommended changes proposed for the state code would be printed and copies of the new code would be ready within a very short time.

Secretary John E. Donovan read the minutes of the previous meeting and his report for the past year. Following the secretary's report, the treasurer, F. A. Haseltine, read his report and it was accepted and referred to the auditing committee.

It was resolved that the association draw up a set of resolutions to be spread on the records of the association in respect to late National President John A. Quinn.

The annual banquet was held on Tuesday evening, followed by the dance. During the evening Miss Agnes M. Burns rendered several solos. The ladies auxiliary had arranged a bower where cold drinks were served.

$100.00 in GOLD

HERE is an opportunity to win some easy money! Old boy "X" Liquid wants to know how many mistakes the artist has made in the picture shown and will pay cash for the information.

Contest ends March 31st, 1930, at midnight but get your answer into the mail today. All tying contestants will receive the prize tied for.

SOME EASY MONEY FOR YOU!

Find the mistakes and win a Prize

To the one who sends a list of the greatest number of "mistakes," together with the best article of 35 words or more descriptive of a repair made with "X" prior to the first announcement of this contest, we offer these prizes:

First Prize	**$25.00**	**Six (6) Prizes of**	**$5.00 each**
Three (3) Prizes of	**10.00 each**	**Fifteen (15) Prizes of**	**1.00 each**

Are you one of the 30,000 plumbers and steamfitters profiting with "X" Liquid? You can profit by going after all repair business aggressively and use it as a back-log for your new building business. A dollar is a dollar whether earned from repair jobs or from new contracts.

"Just pour "X" Liquid in" and watch the profits come your way. Order a Carton of "X" Liquid from your wholesaler today.

"X" LABORATORIES, 25 W. 45th St., New York, N. Y.

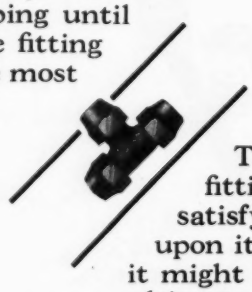
"X" LIQUID

Repairs Leaks in High and Low Pressure Boilers and Hot Water Heating Systems

Solving Tomorrow's Problems By Meeting Today's Needs

"AN IMPORTANT ANNOUNCEMENT"

The introduction of copper tube plumbing has brought forth its skeptics as well as its supporters. This is only a natural healthy condition which is to be expected when any revolutionary step is taken. The Fittings, too, have naturally come in for their share of discussion. Would they stand up? Would they make-up tight? Questions like these were poured upon the exponents of copper tube plumbing until it was realized that copper tube fitting requirements promised to be the most rigid ever laid down.



The need of today then, was for a fitting that would be capable of satisfying *every* requirement placed upon it. But such a fitting, fine though it might be, would still be lacking in the ultimate. Everything advances and what good a perfect fitting of today if tomorrow finds it antiquated? Copper Tube Plumbing will greatly widen its scope and there must be copper tube fittings to handle the problems sure to come at that time.

With these facts in hand, The Malleable Iron Fittings Co., for sixty-six years manufacturers of the famous M. I. F. Malleable Fittings, set to work. Conditions and experience both in European and American methods were closely studied and the result is this announcement of M. I. F. Copper Tube Fittings. They are truly capable of satisfying today's needs and tomorrow's problems.

COPPER · TUBE · FITTINGS

M|F

MALLEABLE IRON FITTINGS COMPANY, BRANFORD, CONN.

Photo taken at the annual banquet of the Jersey City Master Plumbers' Association

Jersey City Master Plumbers' Association Holds Annual Banquet

The Master Plumbers' Association of Jersey City, N. J., tendering its annual banquet on February 28 at the Masonic club in that city, entertained over 200 members and their friends.

Following the dinner, E. P. Ingram, president of the association, formally greeted the guests and introduced L. S. Komoski, chairman of the preparations committee, who in turn presented Arthur Potterton, member of the board of commissioners of Jersey City. Commissioner Potterton greeted the gathering and offered the regrets of Mayor Frank Hague and the other members of the board who were unable to attend.

National Director George Werner of Orange, N. J., in adding his greetings and those of the national association, invited all master plumbers to attend the national convention at Boston in June. A. C. Krieger, president of the New Jersey state association, in his salutation paid a tribute to the members of the Jersey City women's auxiliary for the indispensable work in which they are engaged.

W. T. J. Orriss, state secretary, spoke on the various amendments to the state laws which pertain to the plumbing and heating industry and are coming up for consideration.

Mrs. L. C. Kull, president of the Jersey City women's auxiliary; Mrs. W. T. J. Orriss, president of the state auxiliary; George Cooper, vice president of the Jersey City association, and George Brenner, president of the Master Plumbers' Association of the Oranges, were among others to address the gathering during the evening.

Adding to the festivities were a group of entertainers whose offerings of songs and dances pleased the assemblage. Mr. Komoski was assisted in completing the preparations by President Ingram and the following: J. A. Ward, H. A. Cohendet, W. F. Bailey, J. T. Edge, J. T. Brennan, J. J. Corcoran, Richard Entwistle, George Cooper, H. J. Wasserman, Jr., J. J. Crosby, A. M. Aronson, J. A. Reilly, J. J. McCarthy, J. J. Conlin, L. C. Kull, Joseph Schneiderman, H. P. Sharrock, Anthony Marzullo and J. A. Mulcahy, Jr.

Masters Hold First Annual Dinner-Dance in Rochester

The first annual dinner and dance of the Junior Luncheon club of the Master Plumbers' Association of Rochester, N. Y., was held recently at the Old Homestead, Irondequoit, N. Y. The club is made up of the sons of master plumbers and younger members of the association.

Harry W. Bareham, son of Harry J. Bareham, was chairman of the committee in charge, and associated with him were Lothar C. Gresens, president of the local association, Joseph Paulus, Lester McCormick and Harry A. Snyder.

◆

Canadian A. S. H. V. E. Holds February Meeting in Toronto

A large attendance featured the Canadian Chapter of the American Society of Heating and Ventilating Engineers' February meeting in Toronto, Ont. After the dinner and the completion of routine business, two members of the organization were called upon to inform their colleagues on the highlights of the recent annual meeting of the society in Philadelphia, Pa.

Professor R. W. Angus, head of the department of mechanical engineering at the University of Toronto, reviewing the research work conducted by his department, was the chief speaker of the evening.

◆

Adopts Certified Heating Plan

The Heating and Piping Contractors Syracuse Association, Syracuse, N. Y., formed recently, has adopted the certified heating plan of the national association. L. A. Cookson, M.E., has been made manager. Mr. Cookson has held positions in the organizations of Cass Gilbert, New York City; Peerless Unit Ventilation Co., Bridgeport, Conn.; The International Coal Products Corp., and the board of education, New York City, as an executive engineer. The following are the officers of the association: President, Irving Gilson; vice president, Thomas Burns; treasurer, James Goldies; secretary, James F. Guider.

St. Louis Inspector Talks Over Radio

Thomas J. Manahan, who was recently appointed chief plumbing inspector of St. Louis, Mo., is a native of that city, having been born there some 58 years ago. Previous to his appointment as chief of the plumbing department he was engaged in the general contracting business, specializing in the erection of shoe factories throughout the United States. He became identified with the plumbing business in 1886 as a journeyman. Later he became a master plumber, and was affiliated with the St. Louis Master Plumbers Association.

Thomas J. Manahan

Several entirely different interpretations of the St. Louis plumbing code have already been made by Mr. Manahan with a view to improving plumbing installations in St. Louis. He invites constructive criticism and is at all times eager to consider any worthy suggestions offered him. Just recently he addressed the property owners of St. Louis over the radio and stressed the importance of their doing business with a duly registered plumber, because of the latter's dependability.

◆

Appoints Delegate to Mid-Summer Meeting

The Western New York Chapter, A. S. H. V. E., held its January meeting at the University Club, in Buffalo, on the 20th of the month. A short business meeting was held, at which O. K. Dyer was elected delegate, and D. J. Mahoney, alternate, for the mid-summer convention. The balance of the evening was devoted to entertainment.

The organization's December meeting took the form of a joint meeting with the A. S. M. E. and was held in Rochester. Upon arriving in Rochester the party went on an inspection tour through the plant of the Stecher Lithographic Co. Dinner was served at the Sagamore hotel and a meeting followed. President VanVecten of the Rochester chapter, A. S. M. E., served as chairman.

Mr. Fairfax, engineer for the Stecher Lithographic Co., of Buffalo, was the principal speaker on the program for the evening.

Coal Men Desire to Co-operate with Heating Contractors

EDITOR, DOMESTIC ENGINEERING:—Coal men aren't trying to encroach on the heating man's job, despite all the hullabaloo to the contrary.

Whenever the home owner encounters any trouble in keeping the temperature up, is it strange that the coal man often gets the blame because the coal won't heat?

No matter what the trouble is, ordinarily the home owner calls on the coal man to complain. To protect his business, the progressive retail coal merchant is usually forced to get out and find the source of the trouble.

Equipment or Chimneys Responsible for Complaints

According to a tabulation of several thousand service calls made by coal men with their engineers 98.8 per cent of all complaints on coal were directly chargeable to the equipment itself, the chimney, or to the methods of firing. Dirty heating plants led as a source of 17 per cent of all service calls. About 10 per cent were due to poor chimneys and obstruction leaks at cleanout doors. The coal itself was found responsible in only 1.2 per cent of the 4,610 service calls tabulated. No less than 7 per cent of the calls were due to boilers that were too small.

From all of which, is there any particular reason that the heating trade should complain because some coal men follow through and offer vacuum cleaning service as a means of protecting their business? Thousands of dollars in repair work is being passed on to reliable boiler men because of such service.

Wherever the heating trade has recognized the need of vacuum cleaning, you do not find the coal men taking on such work.

Trying to Help Their Customers

Recently, some members of the heating fraternity discovered that a few coal men were selling stokers. The facts are that the coal man started trying to help the fuel user secure greater comfort and convenience because the heating trade overlooked the trend toward automatic coal burning quipment.

The heating industry has improved its product materially in many respects during the past generation but unfortunately the boiler requires almost as much attention today as it did ten or fifteen years ago.

Women are still forced to run up and down stairs three or four times a day to look after the fire.

In order to secure more convenience, and temperature control, and keep in style, more than a half million home owners have turned to some of the modern oil burners. This naturally hurts the coal trade somewhat, but not nearly as much as some individuals have assumed.

Until a greenhouse man out in Oregon got tired of climbing out of bed early in the morning to get some coal on the fire and began wondering if something couldn't be done to put the coal on automatically, no one apparently gave any attention to the need of such equipment for the smaller commercial or industrial establishments.

Big Market for Smaller Stokers

Since then or during the past five or six years, one manufacturer after another has recognized the market for automatic coal burning equipment. Today, there are many manufacturers in the field.

Simple in design, safe, economical to operate, the small stoker is naturally winning friends. Steady, uniform temperatures can be maintained. Few trips to the basement are necessary in comparison with hand firing. Usually, the stoker hopper holds coal enough for two days' operation. Several models hold enough for a week.

With built-in coal bunkers to hold several tons of coal even the stoker hopper is filled automatically and thus requires no attention.

After reading the report of the Philadelphia Survey

of the Plumbing and Heating Industries Bureau, some manufacturers, I find, are not particularly enthusiastic about the merchandising ability of the average man in the heating trade.

Here and there some heating men are doing an outstanding job of selling oil burners and almost as many more are now selling stokers very successfully.

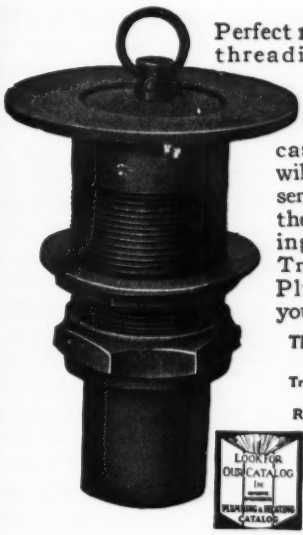
Encouraging Sale of Stokers

In considering the problem of merchandising their equipment, most manufacturers of stokers considered and still consider the established channels. A good heating man who is also a merchandiser is a logical distributor of smaller stokers.

Top row: Carl P. McCarthy, K. C. Vigus, William Turner and David Turner. Middle picture: J. J. McLeod and W. R. Pearce. Bottom row: Jackson Noble, C. C. Anderson, Curtiss N. Gilley and W. E. Vurek. Photos taken at the February tourney of the Plumbing and Heating Club of San Francisco

PRODUCTS BRASS TRENTON T B T B

SINK PLUGS



Perfect machining and threading that will save time in installing and heavy cast brass that will make them serve longest are the distinguishing features of Trenton Sink Plugs. From your jobber.

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Represented by
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261 Franklin St. Boston, Mass.
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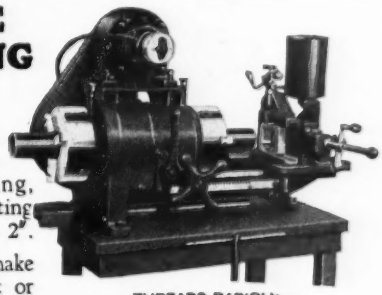
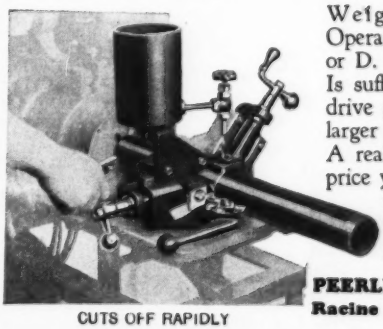
CUTS PIPE THREADING COSTS!

A full-fledged Portable Pipe Machine for Reaming, Chamfering, Threading and Cutting Off pipe from 1/8" to 2".

Uses any standard make of solid square right or left hand pipe or bolt dies.



THREADS RAPIDLY



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Weighs 250 pounds. Operates off either A. C. or D. C. lighting circuits. Is sufficiently powered to drive geared heads on the larger pipe, up to 6 inches. A real pipe machine at a price you can afford. Ask us about it today. Give us the name of your supply dealer.

PEERLESS MACHINE CO.
Racine - Wisconsin

"CHICAGO"
Pipe Threading Machines Production Precision
Latest and Most Advanced Types on the Market
Chicago Pipethread Machine Co., Racine, Wisconsin
Offices and Factory: 1621 Racine Street

Most stoker manufacturers have been swamped with inquiries for agency territories and haven't had the chance to go after dealer connections in the heating trade even if they wanted to.

In connection with the sale of stokers, it must be remembered that the coal man has been the service man for the entire heating industry for years. When people have trouble heating their homes, they are prone to ascribe the difficulty to the fuel, when in reality it may be found in their heating equipment.

Know What Correct Installations Mean

Coal men have listened to so many complaints about coal that in self-defense they have had to study heating equipment and practical combustion problems. The coal man feels that there would be fewer complaints, if the heating trade would install all boilers in accordance with the principles of "Certified Heating."

Stoker dealers in the coal trade aren't going to take chances on an antiquated boiler or one that is entirely too small for the particular load, or on a bad chimney condition.

They realize too well the many sources of trouble in existing heating plants to take chances, so most stoker distributors in the coal trade have turned down an order rather than accept it when they find the boiler or chimney unsatisfactory.

Thus far, the majority of all small stoker sales have been in the smaller commercial or industrial establishments rather than for household use, by the way.

Coal men expect to see foresighted boiler manufacturers recognize the public's demand for automatic heat and that before long the home owner will be able to buy a heating plant that provides automatic firing, temperature control, provision for the maintenance of adequate humidity, and, what's more, that such a plant will be put in correctly—something that doesn't always happen at the present time.

Left to right: F. F. Elliott, sales manager, Crane Co., San Francisco, and Lloyd C. Comegys, attorney-secretary of the Western Supply Association, San Francisco. Photo taken at a recent meeting of the Plumbing and Heating Club

No doubt, the coal man has made some mistakes, but there is no sense in blaming the coal industry because it is trying to follow through and help the customer get the most out of fuel purchased.

No matter how good the coal is or how well it is prepared the customer is certain to be dissatisfied, if the boiler doesn't work satisfactorily.

Coal men are more than glad to work with heating men that are on the job, experience indicates.

Chicago. K. C. RICHMOND.

The "MERION"
A Profit Maker

The "Merion" is one of the nicest items the Plumbing Trade can handle from the standpoint of profit.

List Prices

15 gallon $50.00 30 gallon $70.00
20 gallon $55.00 40 gallon $85.00

You know the discounts, or your jobber can tell you.

The Spring is the best time of the year for "Merion" sales. You ought to get your share.

JOHN WOOD MFG. CO.

Conshohocken, Pa. - - - Chicago, Ill.

New York State Heating and Piping Contractors Hold Annual Convention

Discuss Pipe Welding and Certified Heating

Elect New Officers

President, W. J. Olvany

Vice President, E. W. Tompkins

Secretary-treasurer, R. B. Miller

Recording Secretary, A. E. Anderson

Field Representative, R. M. Bentley

THE thirty-fifth annual convention of the Heating and Piping Contractors New York State Association was held on March 10 and 11 at the Ten Eyck hotel, Albany, as the guest of the Capital District Association.

The sessions were well attended by members and guests from all parts of the state who showed considerable interest in the activities of the association, particularly in certified heating. In his annual report, R. M. Bentley, state field man, stated that the membership in the state association has been increased 35% and six new local associations have been formed.

The Capital District Association, the youngest in the state, was awarded the loving cup offered by Frank Howard of Boston for the association in the whole country showing the greatest percentage of quota increase in membership of any local in the country.

National President Klie Talks

Walter Klie, of Cleveland, president of the national association gave an interesting talk on the credit situation and the benefits which can be derived through cooperative activities between the sources of supply, contractors, and banks to provide accurate credit information and to exercise greater care in the extending of credit.

The rapidly increasing use of pipe welding in the heating industry was well explained by John Zink of Baltimore, who illustrated by slides, various types of installations where welding had greatly improved arrangement, reduced labor and cost of the installation as a whole. He stressed the importance of properly trained welders to the success of welding and stated that the Heating and Piping Contractors National Association is now preparing a text-book on welding and arranging for the training of welders.

William E. Taylor, executive secretary of the New York City Association, outlined the situation in which the heating contractor now finds himself. He brought out many of the features contributing to this condition and stressed the necessity of careful constructive thinking and unselfish co-operation between all branches of the heating industry if it is to maintain its proper position in the building industry.

Speaks on Certified Heating

In expressing his views on certified heating, M. E. Durkee of New York City, stated that the development of the work in any locality may be divided into three steps, exploitation, demonstration and realization, which must be taken in the order named. "There is nothing new in the principle of certified heating," he said, "it has been proven and we all use it in many mercantile lines almost daily. We purchase clothes, food, soaps and heating material by a trade-mark which identifies a certain product in our mind as having been standardized and which gives us the desired service." He called upon all to help in the work of exploitation by telling the public of certified heating.

"To any one who will give careful thought it should be evident that the answer to the price 'bugaboo' which is largely responsible for present deplorable conditions of the heating industry," Mr. Durkee said, "can be successfully overcome by the proper credit structure and a sincere application of certified heating. The one makes it impossible for any contractor to stay in business who refuses to at least include in his price a fair cost of overhead, labor and material, the other makes it absolutely necessary for him to furnish the right kind of installation."

Previous to the opening of the convention the secretaries of the local associations of New York state met and formed a secretaries' conference for the purpose of assisting each other and the state association in the development of certified heating and other association activities. John Doerr of Albany was elected chairman and M. E. Durkee secretary of this conference.

The aim of the New York state association for the coming year is to make certified heating available in every community throughout the state.

CADWELL No. 10 NON-ADJUSTABLE AIR VALVES

Every Heating Need Satisfied

Owners of buildings lose thousands of dollars yearly heating their buildings simply because good valves are lacking on the system. You can save much of this loss for the building owners in your territory. Show these people The Cadwell No. 10 Non-Adjustable Air Valve. Tell them how it will cut heating costs and increase heating system efficiency.

Cadwell No. 10 closes the instant steam comes in contact with the thermostatic float. The diaphragm expands and lifts the float and valve pin into the seat, and saves your customers' money and gives them more heating comfort. These valves also made in ⅛-in. and ¼-in. bottom outlet for return lines.

We will be glad to give complete information upon request

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NEW BRITAIN, CONN.

Philadelphia Association Holds March Meeting

The Master Plumbers' Association of Philadelphia, meeting in the association rooms on March 6 with President Maney J. Feeney presiding, discussed the subject of the shopping of bids. After rather lengthy debate the matter was referred to the legislative and sanitary committees for the compilation of actual facts with the request that a report be made at the next monthly meeting in April. It was voted to award the students graduating from the Northeastern, Southern and Central Trade schools with the highest honors in plumbing, suitably engraved gold watches.

George F. Uber, general chairman of the Pennsylvania state convention, spoke on the interest each master plumber should take in apprentices in his

Maney J. Feeney

shop, giving them the benefits of his business experience so as to properly prepare them for the future.

Robert H. Pflug-Felder presented a report on the conference of presidents and secretaries held recently at Chicago. Howard S. Thrasher, business manager of the Philadelphia Plumbing and Heating Development League, spoke on the necessity of each master plumber and heating contractor tying up with the league in order that its educational program may be carried out. Harry L. Stilwell, chairman of the educational committee, reported that there are but twenty booth spaces available at the exposition which is to be held in conjunction with the state convention in May.

John L. Campbell, general sales manager of C. F. Church Co., Holyoke, Mass., in a talk on business building, in a detailed manner called attention to the possibilities for the sale of plumbing equipment represented in the vast replacement market that exists in Philadelphia as well as in other cities. Mr. Campbell also described the effort his company is putting forth to interest the public in modern sanitary equipment.

President Feeney, Martin Morgan, R. J. Weir, George M. Hicks and William H. Ambrose, as members of the sanitary committee, each addressed

SYLPHON DAMPER REGULATORS

Sylphon TRADE MARK No. 23

STEAM DAMPER REGULATOR

This instrument is one of our many Damper Regulators, and is for the regulation of dampers on steam boilers and is composed entirely of metal, has no rubber diaphragms to wear out and become inoperative: is frictionless, sensitive, positive and invariable in its action. It operates with a slight change in pressure, thus closing the dampers at a very low steam pressure when desired. The position of the counterweight determines the pressure to be maintained. It is easily installed and rarely needs any service.

Write for Bulletin FD-250. We make a regulator for every type heating system.

FULTON SYLPHON Co.
KNOXVILLE. TENN., U.S.A.

Stop pipe thread leaks with SMOOTH-ON No. 1 in a SMOOTH-ON CLAMP

Sizes for 1-in. to 12-in. pipe.

QUICK, easy, cheap Holds for the life of the line—any pressure, any temperature, iron, brass, or copper pipe. Get Smooth-On Clamps and Smooth-On No. 1 from nearest supply house or from us.

Write for the free Smooth-On Handbook.

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DUR-A-BAL
REG. U. S. PAT. OFF.

The **DUR-A-BAL** incorporates every feature of construction for real tank ball performance that you have ever wanted. It is guaranteed for three years. From your jobber.

LAVELLE RUBBER COMPANY

320 W. Illinois St., Chicago, Ill.

JONES

Sell the Jones Indestructible Roll Rim Hopper to factories, public buildings or to any installation where the service is going to be unusually hard.

Write for the complete Jones catalog

JONES HOLLOW WARE CO.
BALTIMORE :: MARYLAND

the meeting. A memorial committee for the late National President John A. Quinn was chosen to attend the national convention at Boston in June. This group includes Past National President D. F. Durkin, Jr., besides Messrs. Uber and Hicks. A resolution formally expressing the deep regret of the association at the passing of the late President Quinn was read and a copy ordered sent to Mrs. Quinn.

◆

Plumbing and Heating Educational Bureau Established in North Carolina

The North Carolina Plumbing and Heating Educational Bureau has been established in Raleigh, through the co-operation of the wholesalers of the state with the North Carolina Plumbing and Heating Contractors Association, in order to create better public understanding of the plumbing and heating business. C. C. Jordan has been appointed secretary-manager of the newly formed organization, and will devote his entire time carrying on the work for which the bureau has been established.

Some of the aims and purposes of this bureau are: to promote and disseminate constructive and educational information regarding the industry; to endeavor to establish high standards of business dealings and sound business methods in the ranks of the industry; to co-operate with state, county and local health authorities; to co-operate with public officials in securing adequate plumbing codes; and to co-operate with the various civic clubs in their national home modernizing movement.

Philadelphia Friendship Club Gives Dinner

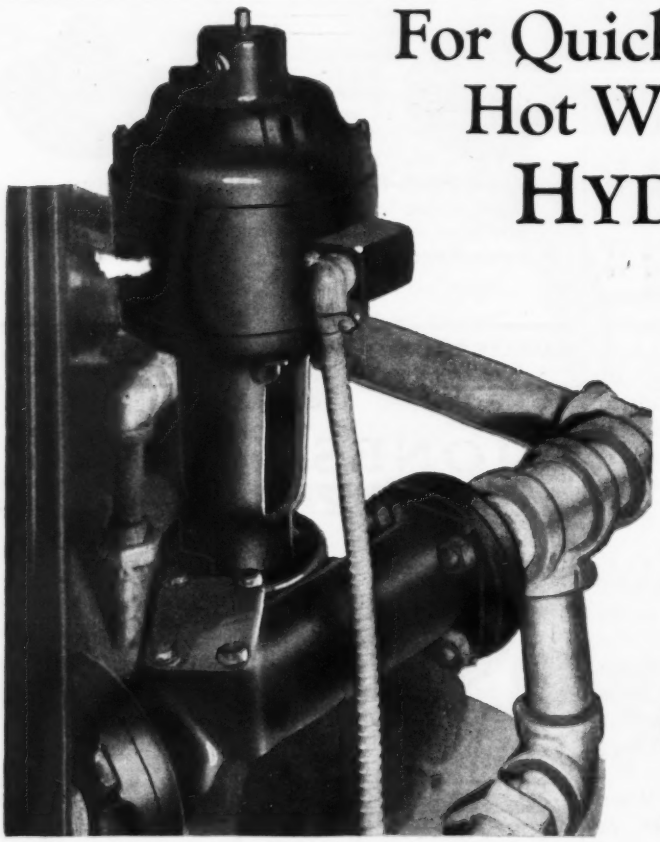
A friendship dinner was recently tendered George Moeller, treasurer of both the Master Plumbers' Association of Philadelphia and the Philadelphia Plumbing and Heating Development League, by the members of the Old Friendship club at the Arcadia cafe, that city. The club, formed five years ago, has as its members master plumbers who have been close friends for a quarter of a century or more.

These dinners, which are annual affairs, have been since its organization, attended by all members. This year Gregor Drummond, who is seriously ill in a hospital, was the exception. William McCoach, former treasurer of the national association, was the first member to die and the spirit of the dinner this year was dampened by the recent death of National President John A. Quinn. The original membership was as follows: W. H. Ambrose, William Boal, Gregor Drummond, D. F. Durkin, Jr., M. J. Feeney, H. B. Lentz, Hugh McElwee, R. H. Pflug-Felder, John A. Quinn, H. L. Righter, E. F. Roberts, F. F. Speth, G. F. Uber, D. J. Whealin and R. G. Weir.

◆

Montreal Association Elects Officers

The Montreal, Que., Master Plumbers' Association, at its annual meeting, elected the following officers for the ensuing year: Godfroid Poirier, president; Martin Quigley, first vice president; William Bethune, second vice president; and J. B. Staton, secretary. John Colford, J. F. Russel and James Griffin were elected trustees.



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Right of Plumbing Contractor to Withdraw Bid Because of Mistake in Computing Price

By LESLIE CHILDS

THE question of the right of a heating or plumbing contractor to withdraw a bid upon work, because of mistake in computing the amount thereof, has been before the courts upon a number of occasions. The holdings thereon are fairly uniform, and the general rule seems to be that a bid may be withdrawn, on the ground of mistake, at any time before it has been accepted.

However, it seems equally well settled that once a bid has been accepted or acted upon the right to withdraw is lost, and a failure to perform according to the bid will render the bidder liable for any resulting damage. The application of this rule is illustrated in an interesting manner in a recently decided case that arose under the following state of facts:

Contractors Offer to Do Work for Certain Price

Here, a state advertised for bids for certain heating and plumbing work to be done upon one of its institutions. The plaintiff was engaged in the heating and sheet metal business, and desired to bid upon the heating work but did not wish to perform the plumbing work. However, the state required that all the work be done under a single contract which prevented the plaintiff from entering a separate bid for the heating work.

In this situation, the plaintiff asked the defendants, who were plumbing contractors, if they would be interested in submitting a bid upon the plumbing work with the understanding that the plaintiff would incorporate this bid with its on the heating work, and submit the two as one bid upon the entire job. This with the plan of the defendants doing the plumbing work at their price, and the plaintiff doing the heating work at its price, providing the plaintiff's bid for the whole job was accepted.

The defendants accepted this offer, and submitted a bid of $14,300 for the plumbing work. The plaintiff then added this to its bid for the heating work, and submitted the whole as one bid. Plaintiff's bid was accepted by the proper board, and it was notified to appear and sign the contract.

At this point the defendants discovered that they had made a mistake of several thousand dollars in computing their bid, and notified plaintiff that they would not go through with their agreement. Plaintiff replied that it would not accept their withdrawal, that it was legally bound to sign the contract, and that it would expect the defendants to do the plumbing work for the price of their bid.

Plaintiff then signed the contract, and, upon the refusal of the defendants to perform, employed another plumbing contractor to do the plumbing work at a cost of about $18,500, or $4,200 more than defendants' bid called for. Following the completion of the work, plaintiff brought the instant action for damages against the defendants for this $4,200, claiming it resulted from the failure of the defendants to perform.

In defense to this action the defendants, among other things, claimed there was no contract between them and the plaintiff that could be enforced. In passing upon this contention, and in finding against the defendants the court said:

The Language of the Court

"When the defendants submitted their bid to the plaintiff, to be incorporated by it in its joint bid for the heating and plumbing work, they made an offer to do that plumbing work for the sum named, conditioned upon the ultimate awarding of the contract to the plaintiff. * * * That both offer and acceptance would become effectual only in the event that the plaintiff's bid was actually accepted * * * did not detract from the mutuality of their underaking.

"In the instant case the defendants agreed to do the plumbing work in the building for a certain sum, and the plaintiff was entitled to have that work done for that sum. The situation is practically the same as that presented where a building contractor makes default in a portion of his contract and the promisee is entitled to recover the reasonable cost of getting the work done by another. * * *"

However, defendants further contended that plaintiff could have reduced the loss upon the plumbing part of the contract by forfeiting its deposit check, and refusing to go on with the contract. In reply to this the court, in part, said:

"The duty of the plaintiff to keep the damages from the breach of the defendants' contract as low as reasonably possible does not require of it that it disregard its own interests or exalt above them those of the defaulting defendants. * * * It was not under an obligation to sacrifice any substantial right of its own in order to minimize the loss of the defendants. * * * It was not required to take a course that would subject it to the loss of profits on its own part of the bid, and which, * * * would to a material extent adversely affect the good will of its business. * * *" (147 P. 712.)

In conclusion, the court affirmed the judgment rendered by the trial court in favor of the plaintiff for the amount, above the bid of the defendants, namely $4,200, which it had paid the other plumbing contractor to perform the work. Taking the position, that the facts showed a clear violation of contract on the part of the defendants. That they had no right to withdraw their bid on the ground of mistake, after it had been acted upon by plaintiff, and that they were liable for the loss.

The foregoing case was well reasoned by the court, and the holding announced is unquestionably in accord with the great weight of authority on the point decided. This authority holding that a contractor has lost all right to withdraw a bid after it has been acted upon or accepted according to its tenor.

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MARKETS

BUSINESS REPORTS FROM LARGE JOBBING CENTERS

Business Holds at Moderate Pace

BUSINESS in plumbing and heating continues along lines very similar to those which have prevailed in the industry for the past several weeks. Contractor requirements in general over the country are not up to what they were a year ago at this time and wholesalers' turnovers are correspondingly light. Consequently, except where out of the ordinary developments make liberal buying good business, jobbers are not anticipating their future needs. Distributors as a rule have large enough stocks to take care of their customers' ordinary requirements and prompt replacements can be had on most items at sources of production. Most manufacturers of cast iron and malleable fittings have readjusted their prices to the level that prevailed prior to the change mentioned in our last review.

Building and engineering contracts awarded in the 37 states east of the Rocky Mountains during February reached a total of $317,053,000, according to F. W. Dodge Corp. The territory covered by these records includes approximately 91 per cent of the total construction volume of the country. Compared with the January, 1930, total of $323,975,200, there was a decrease of only 2 per cent; and February, 1929, was 12 per cent below January, 1929. The first three weeks of last month had very low contract records, but this was offset by a sizeable increase in the closing week of the month, indicating the beginning of the normal Spring revival of construction operations. The February, 1930, total was 12 per cent under that of February, 1929. Since January of this year fell 21 per cent below January, 1929, the February record is an indication of improvement. Total contracts awarded during the first two months of this year have amounted to $641,028,200, being a decrease of 17 per cent from the first two months of last year.

CENTRAL WEST

Consumption Requirements Are Still Relaxed—

Business in the Central West territory during the fortnight just elapsed continued at a rather slow pace, although some few manufacturers' representatives and wholesalers interviewed claimed a slight increase in volume.

While the demand for materials has been relatively light in accordance with the trend indicated by building contracts let, nevertheless requirements for replacements and renovation have aided considerably in bolstering demand to a moderate level.

According to F. W. Dodge Corp., building contracts for February in this territory amounted to $31,490,800. Compared with the preceding month's total of $31,647,800, the decrease was less than 1 per cent; compared with the February, 1929, total of $57,565,800, the drop was 45 per cent. Analysis of the February contract total showed the following active classes of construction expenditures: $10,907,500, or 35 per cent of the total, for public works and utilities; $7,958,300, or 25 per cent, for residential buildings; $4,111,400, or 13 per cent, for commercial buildings; and $2,588,500, or 8 per cent, for educational buildings.

New construction contracts awarded since the first of the year amounted to $63,138,600, compared with $124,430,600 for the first two months in 1929, a decrease of 49 per cent.

Soil Pipe

Manufacturers' representatives interviewed agree that current business in soil pipe is light. Foundries are still operating at a curtailed rate of production, but stocks on hand are sufficiently large to enable makers to take care of orders promptly. Laggard construction activity, with the consequent retarded demand for roughing-in materials, accounts for the relaxed contractor need for soil pipe. Prices to wholesalers have undergone no change since our last report.

Pipe—Steel and Wrought Iron

Contractor requirements for steel and wrought iron pipe in the Chicago district, according to salesmen interviewed, have shown progressive improvement during the last thirty days. Purchasing agents are buying both steel and wrought iron pipe as necessity dictates, and can secure prompt shipments from mills. Makers' prices are firm and unchanged.

Fittings

Buying in the fittings market remained at about the same pace, reports from various sources indicate, as prevailed at the beginning of March, although some manufacturers' representatives indicated marked increases in jobbers' commitments. Better prospects are entertained for April and May. Most makers have readjusted their prices to the level in effect prior to the recent reduction. Sources of supply are amply equipped to afford shipments as wanted.

Enameled Ware

Activity in enameled ware is holding at fair seasonal levels, according to most wholesalers interviewed. Demand for the most part is accounted for by renewals and large operations now in the finishing stage. Colored ware continues to gain in popularity and is reported to be enjoying a larger percentage of total sales. Shipments are prompt in all stages of distribution, and inventories continue low, according to most reports. No change

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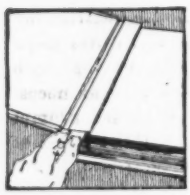

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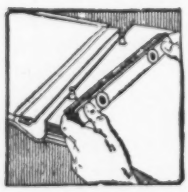

To lock Binder—bring top wing back over the posts—be sure posts fit in the holes in the top wing—then push in slide bar.

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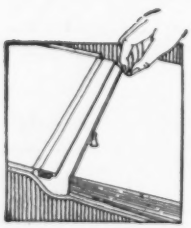

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DOMESTIC ENGINEERING

1900 Prairie Avenue *(Catalog Department)* **Chicago, Illinois**

in manufacturers' prices to wholesalers have been announced since our last review.

Pottery

There have been no noteworthy changes in volume in this commodity during the past two weeks. Pottery prices have not been changed by manufacturers since our last review appeared. The demand from contractors has been only moderate, and jobbers have evidenced little willingness to anticipate their future requirements. Makers are able to grant speedy delivery on staple items.

Plumbers' Brass Goods

Business in cast and tubular brass goods maintained a fair seasonal pace in the experience of most manufacturers' salesmen interviewed during the past fortnight. Master plumber requirements, as a whole, are not as heavy as a year ago at this time and, as a result, wholesalers' turnovers were no more than ordinary during the period. Manufacturers have ample working stocks and are making deliveries in good time. Makers have not changed their published prices.

Range Boilers

No particular improvement in the range boiler market has manifested itself during the last fortnight, according to reports from manufacturers' representatives and wholesalers in the Central West district. Jobbers generally are carrying only sufficient stocks to meet current contractor needs. Sources of production have ample stocks and jobbers report no difficulty in obtaining shipments as wanted.

Boilers and Radiators

Movements in boilers and radiators, according to manufacturers interviewed, show a seasonal relaxation. Distributors are buying only as contractor demand dictates. Requirements for repair and replacement work are only "fair." Prices are unchanged, and no delays are experienced in obtaining deliveries.

NEW YORK

Demand for Replacement Maintains Turnover—

In the opinion of several wholesalers interviewed, the demand for replacement of obsolete material has accounted for a proportionately large part of the total volume of material sold. Several large building projects are now being figured for Manhattan, but in the outlying counties one-family homes and multiple-dwellings are not being erected in any substantial amount.

In upper New York State conditions are characterized as being slow and collections are not on a par with those of a year ago. In some localities payments have been speeded up somewhat, however, owing to special conditions, such as the availability of mortgage money after a lapse of six months. These funds have enabled builders to settle old scores with contractors, who in turn have liquidated their obligations to wholesalers. In the suburban areas of New York City, such as New Jersey and Westchester, several embarrassments of builders have been reported, but contractors in those areas are said to have substantial resources with which to meet the resulting lag in payments.

During the week from March 1 through March 7 there was $12,285,200 worth of new building and engineering contracts let in the Metropolitan area of New York, according to F. W. Dodge Corp. This compares with $44,255,000 for contracts let in the preceding week, which was an unusually heavy construction week; and compares with $22,283,000, the amount let in the same week of last year. Contracts let since the first of the year have reached a total of $157,580,100, against $175,852,400 for the same period in 1928, a decrease of 10 per cent.

Commercial buildings were the most active in the week, with $5,369,500, or 44 per cent of all construction. Residential buildings were second, amounting to $2,836,800, or 23 per cent; public works and utilities totaled $2,331,300, or 19 per cent; and educational buildings amounted to $1,052,100, or 9 per cent.

Contemplated building reported during the past week amounted to $33,102,900, as against $39,357,600, the amount reported in the preceding week.

Soil Pipe

According to most wholesalers interviewed, soil pipe is not moving in any great quantity, although some specifications are being taken in by wholesalers for work in contractors' hands. In some instances shipments of an anticipatory nature have been made owing to the pending increase in freight rates. Prices are unchanged at all points of distribution and wholesalers' stocks are reported somewhat higher than at the end of the year, but considerably lower than at this time last year. Plant inventories are of moderate proportions, as production has been closely geared to wholesalers' specifications.

Pipe—Brass, Steel and Wrought Iron

During the past year the industrial demand for pipe of all types made up to a great extent the decline in requirements for residential building, according to some leading interests. This demand for replacements and improvements in factories, refineries and mills still accounts for a considerable tonnage. Wholesalers are reported to be specifying only for their immediate requirements, as they feel no necessity exists for carrying heavy stocks at this time. Contractor demand for residential purposes is reported as being light. There have been no changes in prices and inventories are reported to be low at mills and in wholesalers' warehouses.

Fittings

The shipment of brass fittings has slackened somewhat with the completion of heavy specifications received by mills at the time the price was changed. In the malleable and cast iron division most wholesalers report that they have specified heavily during the past fortnight and have filled-in inventory requirements in the complete line owing to change in price. Contractor demand in the fittings division is said to have held up relatively well during the recent past. Inventories are said to be of normal proportions at plants among distributors and no further changes in prices have been made. The price revision announced in our last issue was followed by an advance, and it is reported that a considerable volume of malleables and cast iron fittings resulted, as buying was occasioned by both contractors and wholesalers.

Pottery

According to representative interests in the pottery division, business is below normal for this time of year. There are two major operations now being estimated in New York County which, while large in the aggregate, will in the opinion of most people not make up for the dearth of apartment house construction in general. Inventories are being held at low levels by both manufacturers and wholesalers, and price sheets are being strictly adhered to by all interests.

Enameled Ware

Enameled ware has not held to the quickened pace felt about the first of the month, in the opinion of many distributors, but in line with the trend which has been in evidence for sev-

eral months the demand for specials and colored ware is increasing. While the volume of such items is not commensurate with that of the staples, nevertheless in terms of dollars the amount is quite considerable. There has been no tendency on the part of wholesalers to anticipate requirements and prices are maintained firmly by foundries and wholesalers.

Plumbers' Brass Goods

The shipments of tubular brass goods at this time are not as large as those of a year ago, according to some manufacturers interviewed. However, contractor demand is said to be increasing slowly and such shipments as are being made by plants are for almost immediate installation. In the cast brass division there has been some tapering of demand since the first of the month, but prices are reported firm in this territory. Inventories have shown a considerable decrease from the levels which obtained a year ago, both among wholesalers and manufacturers.

Range Boilers

The demand for range boilers has shown some increase recently, but in the main such requirements have been for replacement rather than for installation in new homes. Prices have shown no change from the lists issued approximately a year ago and quotations are firmly maintained by manufacturers and wholesalers alike. It is felt by leading interests that inventories represent bare working levels at all stages of distribution. The advance in prices on welded storage tanks recently announced has been firmly maintained.

Boilers and Radiators

One prominent manufacturer reports that business is irregular in this division, but after allowance in the seasonal trend it may be considered up to expectation. No price changes have been announced by makers, and quotations of wholesalers are said to be firmly maintained. In the main, inventories are low at wholesaling points of distribution.

MIDDLE ATLANTIC

Better Business Tone Is Noticeable—

Indications from most sources in this territory seem to point to a slight improvement in the demand for all types of plumbing and heating materials during the fortnight. It is the opinion of many of those interviewed that the increase in the amount of goods demanded, and the increased number of inquiries for prices received by manufacturers' representatives, means an improvement from the quietness which has prevailed in this territory since December, with the exception of slight advances in the volume of business for short periods. These flurries were usually occasioned by price changes or other unexpected activities.

Wholesalers in the smaller cities of Pennsylvania, such as York, Lancaster, Harrisburg, Allentown and Reading, report that many projects are being planned in their sections which should cause a decided stimulation to Spring business. Jobbers as a whole are maintaining the policy of small quantity buying, not attempting to anticipate the demand for the coming months.

According to the F. W. Dodge Corp., the total amount of $33,352,900 was contracted for in new building and engineering work during February in the Middle Atlantic states. The above total was 50 per cent below the preceding month's total and it was off 34 per cent from the corresponding month's figure in 1929. Included in the February building record were the following active classes: $10,883,600, or 33 per cent of all construction, for residential buildings; $8,128,500, or 24 per cent for industrial buildings; $7,520,800, or 23 per cent, for public works and utilities; and $4,088,000, or 12 per cent, for commercial buildings.

Building and engineering contracts let since the first of January have reached a sum of $100,600,900, compared with $99,773,100 for the first two months of 1929, a slight increase of 1 per cent.

During February there was $58,212,800 worth of construction reported as contemplated, compared with $109,403,600 for January, a decrease of 47 per cent, and compared with $92,259,300, the amount reported in February, 1929, a decline of 37 per cent.

The F. W. Dodge Corp. reports for the eighth week in the Middle Atlantic section give a total construction figure of $16,047,100, of which total $7,765,000 went to non-residential building and $3,862,100 to residential projects. During the ninth week, from March 1 to 7, a total of $5,775,100 in contracts was announced. This figure was about evenly divided between non-residential and residential buildings, with $707,200 going to public types of construction.

Soil Pipe

Soil pipe enjoyed a greater demand by master plumbers during the fortnight, although the turnover was not of the same proportions reached last year. The seasonal recession coupled with the dull trading of the past two months has made soil pipe, like many of the other plumbing and heating commodities, a slow moving product. Reflections of this better trend have not reached manufacturers in large enough quantities to cause a great stir, but are taken to be indications of better future business. Prices are unchanged and shipments are made in a prompt manner.

Pipe—Brass, Steel and Wrought Iron

Brass pipe volumes, it is reported, remain in a rather lethargic condition, although the price remains firm. Wrought iron pipe, after coming in for a very fair demand during the last weeks of February, has shown a recession in activity during the fortnight. Steel pipe tonnages are of a slightly increased nature, according to those interviewed, February having been off in point of volume as compared to last year. Shipments of all three types of pipe are promptly made and prices remain unchanged.

Fittings

Some activity was caused in the fitting market last week when some manufacturers decided to sell malleable types on a piece instead of a pound basis. Master plumber demand is moderate, but appears to be well sustained at present. Deliveries are made promptly.

Pottery

Specifications for pottery are coming to manufacturers at more frequent intervals than previous weeks since the first of the year. These commitments probably will not be shipped until the next month or two months, but indicate an increase in plumbing activities. Except for the stimulation caused by the advance in staple pottery prices last month, pottery has not enjoyed a gratifying demand by master plumbers. Prices remain the same and potters have sufficient stocks on hand to deliver in good time.

Enameled Ware

March business for the first two weeks had an improved tone as reflected by orders received, according to enameled ware producers. This improvement, however, still does not overshadow last year's volumes, but is noticeable due to the sluggish volumes experienced during last month. Producers are of the opinion that this business will continue with the advent

of Spring and new building projects. Enameled ware prices are unchanged, and plants are effecting deliveries in a prompt manner.

Plumbers' Brass Goods

With the advent of March master plumber demand on distributors took a fairly substantial rise, and this condition is now being reflected to the makers' salesmen. Orders received are for slightly larger quantities on the whole and are maintained at a steadier rate than they have been since the first of the year. Producers have not changed their published prices and they are distributing goods in a quick manner.

Range Boilers

Range boiler business shows a slight advance over February for the first two weeks of March. This market for the past four or five weeks has been rather limited in the demand for boilers by the trade, but a feature of the market has been and still is the firm adherence to prices throughout the industry. Deliveries are promptly effected.

Boilers and Radiators

The demand for replacement and renovation work has been well sustained during the fortnight, it is reported, but no decided improvement in new work has been experienced as yet by wholesalers or makers' representatives. Prices remain firm and unchanged. Shipments are quickly made.

NEW ENGLAND

Construction Shows Upward Trend—

Business consummated during the past several weeks accorded manufacturers' salesmen and local distributors of plumbing and heating materials a more cheerful outlook for an active Spring program. Although construction now in progress does not indicate immediate upward strides from heretofore quiet conditions, considerable interest in prospective developments is displayed by both plumbing contractors and jobbers. An increase in home building in this section is attested by reports from F. W. Dodge Corp. which show that residential developments constituted 39 per cent of all construction during the past month. The total of February contracts awarded in the New England states showed an increase of 9 per cent over the preceding month's total, but reflected a decrease of 26 per cent over the corresponding month of 1929. On the other hand, contemplated work reported in February amounted to $163,827,700, which was three times more than the total reported in January.

This was more than four times the amount recorded for February of last year.

The majority of wholesalers in this area report that their dispositions are not active, but have slightly improved during the past fortnight. It is said that quotations for specific operations are more numerous than during preceding weeks. Makers' salesmen continue to report that their receipts are gained only through strenuous efforts and despite wholesalers' aversion to buying ahead, betterment in small quantity purchasing is becoming apparent. Stocks at wholesaling points are well assorted for existing needs and deliveries from sources are being effected in sufficiently prompt manner to overcome any deficiencies which might occur. Producers and distributors of lead commodities have effected several downward revisions in their prices. Prices of other materials

The Stock Market

Range for Week Ending March 15, 1930†

Par Value	1930 High	1930 Low		*	Weekly High	Weekly Low	Weekly Close
NP	140⅞	118	Air Reduction Sales Co.	A	140⅞	131	134
NP	38	30⅛	American Rad. & Stand. San. Corp.	A	36⅞	34⅝	35
25	100⅞	80½	American Rolling Mills Co.	A	94¾	92¾	93
50	80¾	69½	Anaconda Copper Mining Co.	A	75¼	69½	70¾
NP	39⅞	36	Bastian-Blessing Co.	C	38	38	38
NP	105¼	92	Bethlehem Steel Co., com.	A	104⅞	99¾	99¾
100	131½	122½	Bethlehem Steel Co., pfd.	A	131½	128	131½
NP	24¾	13⅛	Brunswick-Balke-Collender Co.	A	23¼	20½	20½
NP	97	80¼	A. M. Byers Co., com.	A & E	97	87½	95¾
100	114	109	A. M. Byers Co., pfd.	A & E	112	112	112
100	127½	118	Century Electric Co., com.	F	118	118	118
50	4¾	1	Chicago Nipple Mfg. Co., "A"	B	2¼	1	1
50	1½	1	Chicago Nipple Mfg. Co., "B"	B	1	1	1
25	44	42½	Crane Co., com.	C	43	43	43
100	119½	113½	Crane Co., pfd.	C	115½	114	115½
20	21	11½	Eagle-Picher Lead Co.	H	12⅞	12	12⅜
NP	39¾	15⅜	Fairbanks Co., pfd.	A	21⅜	18	18
NP	45¾	34½	Fairbanks, Morse & Co., com.	A	45	41¼	43
100	109¼	102	Fairbanks, Morse & Co., pfd.	A	109½	107	109½
NP	18⅞	12½	Greenfield Tap & Die Corp.	B	18⅞	18	18⅞
NP	25	22½	Iron Fireman Mfg. Co.	C	25	24	24¾
NP	148¾	117	Johns-Manville Corp., com.	A	145¼	135	136¼
100	122	118¼	Johns-Manville Corp., pfd.	A	122	120⅞	122
100	121½	118½	Jones & Laughlin, pfd.	A & E	123	120⅞	123
NP	75	61	Minneapolis-Honeywell Reg. Co., com.	A	70	67	67
NP	60	48	Modine Mfg. Co.	B & C	58	57½	58
NP	32	26½	Motor Wheel Corp.	A	30¼	29⅞	30¼
NP	44⅝	35⅝	F. E. Myers & Bro. Co., com.	A	44⅝	41¾	43½
100	105	101½	F. E. Myers & Bro. Co., pfd.	G	41½	41½	41½
100	189½	137	National Lead Co., com.	A	184¾	172	172
100	141¼	138¾	National Lead Co., pfd. "A"	A	140¾	140½	140¾
100	117½	116	National Lead Co., pfd. "B"	A	116	116	116
NP	4½	1¾	National Radiator Corp., com.	A	3	2¾	3
NP	11	4	National Radiator Corp., pfd.	A	5⅞	5⅞	5⅞
5	31¼	26	Herman Nelson Corp.	B	30¾	30¼	30¼
NP	96	69	Ohio Brass Co., "B"	B & G	75½	75	75
NP	29	23	Revere Copper & Brass, Inc., com.	A	27⅜	24¾	27⅜
NP	103¼	102	Revere Copper & Brass, Inc., pfd. "A"	A	103¼	102	103¼
NP	19⅜	2⅛	Richmond Radiator Co., com.	B	2¾	2¾	2¾
NP	38⅛	8	Richmond Radiator Co., pfd.	B	8	8	8
NP	44½	29	Ruud Mfg. Co.	C	29	29	29
NP	31	19⅞	Spang, Chalfant & Co., com.	A	31	27¾	31
100	96	92	Spang, Chalfant & Co., pfd.	A	95½	95½	95½
NP	26	24	Time-O-Stat Controls Co., "A"	C	25¾	24½	24½
NP	59¼	44¾	Union Carbide & Carbon Corp.	A	59¼	54¼	58½
20	33¾	18½	U. S. Cast Iron P. & F. Co., com.	A	32⅞	30½	31¾
NP	17⅝	15⅝	U. S. Cast Iron P. & F. Co., 1st pfd.	A	17½	16⅞	17⅜
NP	20	18½	U. S. Cast Iron P. & F. Co., 2nd pfd.	A	20	18⅝	20
NP	47½	42½	U. S. Radiator Corp., com.	B & D	47	47	47
100	100	100	U. S. Radiator Corp., pfd.	D	100	100	100
NP	29⅛	21¼	U. S. Rubber Co., com.	A	28⅝	26⅝	27¼
100	55	47¾	U. S. Rubber Co., pfd.	A	53⅞	52	52
100	189½	166	U. S. Steel Corp., com.	A	183½	177¾	179¼
100	144⅞	141	U. S. Steel Corp., pfd.	A	144⅞	143¾	144¾
NP	5⅜	2¾	Universal Pipe & Radiator Co.	A	4⅛	4⅛	4⅛
NP	38¼	26	Walworth Co.	A	37⅜	34⅞	35⅝
NP	14½	8½	Wayne Co., com.	B & C	14¼	13½	14¼
NP	32½	28	Wayne Co., pfd.	B & C	29¾	29¾	29¾
100	110	93	Wheeling Steel Corp., com.	B	110	108	110
100	135½	131½	Wheeling Steel Corp., pfd. "A"	B	133	133	133
NP	29¾	16	Williams Oil-O-Matic Htg. Corp.	C	16	16	16
NP	150	108	Youngstown Sheet & Tube Co.	A	150	137	138¾

*Where listed—
A—New York Stock Exchange
B—New York Curb Exchange
C—Chicago Stock Exchange
D—Detroit Stock Exchange
E—Pittsburgh Stock Exchange
F—St. Louis Stock Exchange
G—Cleveland Stock Exchange
H—Cincinnati Stock Exchange

†If there is no trading during the current week, range represents last week recorded.

The Metal Market

	March 18	Average Feb., 1930	Average Dec., 1929	Average 1929
PIG IRON—				
No. 2 foundry, Chicago	$19.50	$20.00	$20.00	$20.00
PLATES AND SHEETS—				
Steel boiler plates, Pittsburgh, per lb.	1.85c	1.85c	1.90c	1.93c
*Blue annealed sheets, No. 13, Pittsburgh, per lb.	2.25c	2.25c	2.35c	2.17c
Black sheets, No. 24, Pittsburgh, per lb.	2.75c	2.65c	2.75c	2.85c
Galvanized sheets, No. 24, Pittsburgh, per lb.	3.40c	3.30c	3.40c	3.57c
TIN—				
Straits tin	36c			
LEAD—				
Chicago	5.50c			

The Old Metal Market
Dealers' Buying Prices

	Per lb.		Per lb.
Aluminum clippings	15½c	Copper, light	13¼c
Block tin	32 c	Copper, uncrucibled wire	15 c
Brass, light	7¼c	Faucets and valves	9½c
Brass, heavy mixed	8½c	Lead, heavy	5 c
Brass, red	11½c	Solder Joints	8 c
Copper, crucible	15½c		

NOTE: Prices are those quoted on Tuesday of this week.
* Comparisons are with old blue annealed base, No. 10.

from manufacturers' and wholesalers' standpoints remain unchanged.

Soil Pipe

While the roughing-in activities of master plumbers have not as yet gained much momentum, movements of soil pipe, especially from jobbers' stocks, have increased during the past several weeks. Foundry representatives report that their tonnages are not behind for this time of year, and prospective carload orders for distributors' stocks and for major operations which will soon be started augur comparatively good seasonal volumes for the coming months. The price situation, from foundry and wholesalers' standpoints, continues unchanged. Shipments from sources are being promptly executed.

Pipe—Brass, Steel and Wrought Iron

Consumption of these commodities has not increased to any appreciable extent during the past several weeks. Distributors find some quickening in their daily sales of brass and steel pipe. Manufacturers' receipts consist largely of replacement orders and a scattering of carload commitments by jobbers. Wrought iron pipe mills have reported that February and March business was quite satisfactory and indications of increases in their volumes are apparent in the number of inquiries from the plumbing and heating trade and also from industrial sources. Sources of supply are amply equipped to afford shipments on dates requested. Mill prices have not been changed.

Fittings

Insofar as the majority of wholesalers are equipped in manner to suffice the present needs of their trade, orders reaching manufacturers' hands are not of voluminous nature. Demand from the plumbing field, however, showed some improvement during the past week, for jobbers' sales of brass and malleable items were somewhat extended. Forwardings to distributing points are being effected in prompt manner by makers.

Enameled Ware

Jobbers' turnovers are not especially active, but the outlook for the immediate future is promising, for contractors' calls, even though sporadic, are assuming better proportions and their requests for estimates designate good potential business for the Spring. Makers are also actively engaged in figuring future work and they display considerable optimism over April and May prospects. Wholesalers are well stocked, mainly due to their receipts of ware bought before the recent price change by makers. Sources are well supplied with staple items and are making shipments without delay. Factory prices have not been changed.

Pottery

Contractor demand continues to hold at a level which is normal for this period of the year. Interest in colored ware and shipments of special pieces for major operations sustain potters' volumes and help to offset the comparatively lax demand for staple pieces which has obtained during the first months of the year. The construction program in the New England states, as presently outlined, indicates to pottery representatives an early resumption of active business.

Plumbers' Brass Goods

Wholesalers state that their dispositions of brass goods are not large and that building operations have not progressed in sufficient volume as to step-up consumption demand. There is little enthusiasm expressed by manufacturers' representatives over the amount of future delivery business received, for jobbers are carrying only sufficient quantities for the near-at-hand wants of their trade and show no inclination to augment their stocks nor to commit themselves.

Range Boilers

The volume of galvanized range boiler business reaching manufacturers' hands, while not large nor above the seasonal point which is usually looked for at this time of year, is satisfactory to most producers. Wholesalers have been stocking boilers fairly commensurate with their customers' existing needs, which on the whole do not necessitate the upkeep of large stocks at distributing points.

Boilers and Radiators

There still obtains a fairly good demand for heating equipment, but naturally makers' and distributors' receipts fell off to some extent during the past weeks. Representing salesmen say that there is a good volume of potential business which they are figuring. Distributors are not heavily stocked, but show ability to serve their trade promptly. Manufacturers are also in position to effect early shipments.

SOUTHEAST

Buying Tone Is Still Moderate—

For the past several weeks business in the plumbing and heating line in the Atlanta territory was only fair and most jobbers are of the opinion that sales will continue moderate until the opening of Spring construction. The seasonal lull has materially affected the heating lines and business in this field is governed largely by reinstallation and repair work. Wholesalers are reluctant to place large factory commitments and are holding strictly to the policy of maintaining small but good working stocks.

The majority of jobbers have good stocks and contractors have had no difficulty in securing material promptly. Construction work is largely confined to residences and small industrial projects. Architects

and engineers are reported quite busy with several projects soon to be ready for release to contractors.

Soil Pipe

Soil pipe is not moving into consumption at a rate generally expected for this season of the year. The first half of March produced little in the way of tonnage, and jobbers hold that March will show little increase over February. Wholesalers have anticipated their needs quite accurately and no delays have occurred in securing supplies. No price change has been announced.

Pipe—Brass, Steel and Wrought Iron

No particular interest was manifested in brass, steel and wrought iron pipe for the past fortnight. Sales seem to be holding a fair level, but generally orders stipulate small quantities. Jobbers have ample stocks on hand to care for the current needs of the trade. Prices are unchanged.

Fittings

There is little activity reported in cast iron and malleable items. Though contractor demand was not heavy, some wholesalers showed added interest by increasing their factory commitments. Factories are in a position to ship promptly and deliveries are satisfactory.

Enameled Ware

The demand for enameled ware has been moderate, according to most reports, and contractors are engaged primarily with reinstallation work. Most jobbers are placing factory orders in quantities sufficient to care for the near future requirements of the trade. Demand for colored ware is fairly good, according to several jobbers. Makers are delivering promptly and no price change has been announced.

Pottery

Contractors experienced a rather quiet period since our last report and little activity resulted in this commodity. Most jobbers are curtailing their factory commitments to the minimum and are ordering in proportion to withdrawals. However, pottery representatives report that the outlook is encouraging for the Spring season, owing to a large number of inquiries being received regarding future delivery orders. Factories are making prompt shipments and prices are unchanged.

Plumbers' Brass Goods

Plumbers' brass goods was only in fair demand during the past fortnight and most sales were for contracts closed and few inquiries were made for future requirements. Jobbers have a good assortment of stock and are placing orders with the makers for small quantities. Makers have not changed their price sheets and shipments are satisfactory in all cases.

Range Boilers

On the whole, sales in range boilers were light and little new business developed. Jobbers report a slight increase in sales going for reinstallation work. Factory commitments were small and jobbers are holding to the policy of maintaining small but complete stocks. Prices remained unchanged and deliveries were prompt and regular from both wholesalers and manufacturers.

Boilers and Radiators

Jobbers interviewed state that the heating lines are still affected by the seasonal lull, expected at this time of the year. Replacement work still accounted for a large percentage of the volume of business in boilers and radiators. No price changes have been reported and makers are granting prompt deliveries.

PACIFIC COAST

Coast Business Holds Fair Pace

General conditions along the Coast remain about the same, with business generally little changed during the past fortnight.

Distributors are carrying stocks in sufficient quantity to insure prompt delivery of customers' needs. Prices to the trade vary somewhat in the different centers but on the whole are holding firm.

Soil Pipe

A nominal demand for this commodity continues with the trade generally purchasing in small lots for immediate needs only. The gross tonnage moving at present is not very heavy. Distributors generally have stocks sufficient to insure prompt shipment of orders. Prices are unchanged.

Pipe—Steel and Wrought Iron

Current demand for steel pipe continues to be of a moderate nature with most purchasing confined to small lots for immediate needs and few if any inquiries out for future delivery.

Distributors of steel pipe generally have well balanced stocks and the trade's requirements are being promptly met. Demand for wrought iron pipe is fair. Distributors of this commodity are carrying sufficient stocks to insure prompt delivery of orders received. Mill prices on both types of pipe are unchanged.

Fittings

Demand for fittings continues moderate, with most orders being in small lots for current needs or to sort up stocks. Distributors are carrying stocks sufficient to insure prompt delivery of all orders received. Quick delivery service is available at manufacturing sources.

Enameled Ware

A moderate demand for enameled ware continues. Purchasing by the trade continues to be only as material is required. Distributors have sufficient stocks to insure prompt delivery of orders as received and can secure prompt shipment from manufacturers in this territory. Prices remain unchanged.

Pottery

Little change is noticeable in the demand for pottery, which continues to be of a moderate nature. Distributors generally have well balanced stocks and the trade's needs can be promptly met.

Plumbers' Brass Goods

Demand for this commodity continues fairly satisfactory. Distributors are carrying sufficient stocks to insure prompt shipment of orders as received and they are replacing stock in about the same volume as sales. Distributors' prices to the trade vary somewhat in the different jobbing centers and are more firm in some than in others.

◆

A. M. Byers Co. Expands Sales Force

A. M. Byers Co., Pittsburgh, Pa., has just announced the appointment of the following additions to its sales organization:

D. S. Sampson assigned to the New York City office, under division manager G. W. Hamill, to cover the New Jersey territory.

R. C. Hamlett assigned to New Orleans, La., under jurisdiction of division manager A. D. Sheere of Atlanta, Ga.

Irwin P. Young, with headquarters at Chicago, under division manager M. G. Henderson.

T. D. Graham, assigned to St. Louis territory under Chicago division manager M. G. Henderson.

◆

Will Market Drinking Fountains

The R. N. Burkert Co., Trenton, N. J., has been discontinued. The line of drinking fountains which has been sold by that company will now be marketed by the Trenton Brass and Machine Co., Trenton, N. J. The latter company has been manufacturing these fountains for the R. N. Burkert Co. and previously for the Trenjer Specialty Co.

The Master Salesman

(Continued from Page 66)

a very definite reaction to that statement. Mrs. Brown knows enough about washing machines to know just what kind she would buy—if she bought. But she shows very little interest in learning that she can make a substantial contribution toward the cost by saving on labor costs.

To Jones that meant that something else stood in the way of her interest. Something came close to blocking any thinking she might do on the subject. For the moment the obstacle was hidden to Jones. But it was there; and he had to get it out into the open if he was to combat it. He has seen a good looking automobile outside. He guesses at it as the obstacle and discovers he is right. Remember that we learn later on that Brown had bought the automobile on Mrs. Brown's promise that she wouldn't buy anything for six months. Now Jones has the obstacle in the open and proceeds to try to flank it. He offers the time payment plan. This time he is off the target altogether. Their puritanical thrift does not include "instalments." Nothing more can be done on this call. Jones makes his exit, leaving the way open to return that evening in order to prevent the prospect of a sale from "going cold." Besides, "tomorrow is wash day."

Several questions occur to him when he returns that evening. Mrs. Brown expresses surprise at his presence. She knew he was coming back; and her subsequent remarks sound as if they were intended for Mr. Brown's ears rather than for the Master Plumber's. Then Brown comes right to bat with his remark that the sale is hopeless. It looked as if they had been discussing the matter; and if that were true, weren't they too much interested in the washing machine?

Jones proceeds to meet the situation by not opposing Brown's rather stiff statement that the sale is hopeless; he expresses his willingness to allow Brown to buy rather than be sold. There is no argument there; and never arguing with a prospect is an infallible rule. There is always a way to agree by adding a supplementary remark that qualifies the agreement without argument. That's what Jones did: He agreed not to sell the machine, but bet the cigars that Brown would buy it.

Notice the self-control exercised by Jones. He is a good listener; he is careful not to talk too much; but when he does talk, he does so with finality, and forestalls argument. Plainly he is trying to do just what he said he wanted to do—to say nothing but what he felt was just right.

Three things about the sale in direct reference to the washing machine are to be noticed. First, is the fact that he did not bother much about technical details. He painted a picture of its economy, convenience, etc., leaving the demonstration to bring out the mechanical details. Secondly, he did not allow himself to be drawn into quoting a price until he had had an opportunity to build up the value of the machine. Quoting a price before the prospect has a comprehensive idea of the value of what you are selling is apt to be fatal to the sale. Jones avoided mentioning the price by setting up the saving $3.50 a week as the source of payment for the machine. All of this was building up the value back of the price so that he could quote it finally without fear of causing a shock to their economic views.

Then comes the demonstration, which sells merchandise better than the best of oratory. Seen under actual working conditions, doing all that is claimed for it—these make it difficult for a prospect to see the machine go once it has been installed for its trial. Naturally, there was nothing for Jones to do but be on hand when the laundress went to work on the following morning. He had to be there to develop any favorable points—and to meet possible unfavorable criticism.

Eliza was the "fly in the ointment." She had a selfish interest in being afraid that she would lose a day's work. Becoming impatient with her would do no good. Jones, by getting rid of her after the first batch of laundry was in the machine, did two things: He took Eliza away from the machine for a time, and he gave Mrs. Brown a suggestion that washday need not mean that Eliza couldn't do a bit of work about the house. Then, Jones, by not quarreling with Eliza, strengthened his own position; everything Eliza said only heightened in Mrs. Brown's mind the fact that she was talking for her own interest, and not for those of Mrs. Brown. The incident of the wringer, and Eliza's reaction to it, was something in Jones' favor. Eliza had been accustomed to turning a wringer by hand; and Jones saw, the moment that she began to handle the wringer, that here was his strength with her. She wasn't having to work, "a-tall." Eliza was eliminated as an obstacle.

And now we come to the abruptness with which the sale came to a head. Naturally, it seemed abrupt to Jones; and it is not always easy, even from the sidelines, to put your finger on just what turned the trick. But I am convinced, from my own long experience, that these sudden decisions are not unusual after a doubtful fight for a sale. In fact, I think that if one could recognize the signs (which the prospect hides most carefully, of course) he would know that the favorable decision was coming. It's one of the reasons for watching and weighing everything that's said.

In this case, Brown started right off with a challenge to Jones. In effect, he said, "You can't sell me." Jones didn't say, "I can!" thus starting an argument. He said: "I won't try. But you'll buy." So that, all through the steps leading up to the decision, Brown was in the position of a man who has taken up a very definite position. He had to be careful of what he said. He had to throw every objection he could think of in the way of the sale. And he was a conservative, anyway. So that, from where Jones sat, it looked as if Brown maintained his position pretty consistently. Of course, from the sidelines we notice the interest he showed in the working of the machine. The breakdown of his sales resistance began when he decided to come back and see that first batch of clothes taken out of the machine. I am not at all surprised that our Master Plumber had his eye on Mrs. Brown, and if Brown hadn't made the decision there and then, I think Mrs. Brown would have come through with a suggestion. Maybe she intended to finance the machine out of household savings. That we'll never know, unless Jones wants to ask her some time.

A few words in conclusion: The greatest factor in the sale was Jones' determination to go through with his campaign. He had rated his ability and he didn't want to fail in this case because—well, he wanted to think Jones was a pretty good salesman.

Time payments will increase your business

If you do not know from actual experience what a sales stimulant the **"Standard"** Time Payment Plan really is, then you should learn what others have discovered about this plan.

The following extracts from letters written by dealers are typical of the many hundreds received:

"Your Time Payment Plan breaks down sales resistance."

"During the past three and one half years we have installed approximately eight hundred and fifty jobs on your Time Payment Plan."

"Your Time Payment Plan has helped us a great deal in closing contracts."

"Your Time Payment Plan is more than doubling our business."

Do you know that under this unique plan, operated by tne Heating and Plumbing Finance Corporation, a subsidiary of this company, you get every cent in cash as soon as you complete an installation? That there is no delay due to red tape—no waiting—no embarrassment to you or your customer? Do you know that this plan lessens worry and bother—gives you more time to devote to increasing your business —and eliminates risk of loss due to bad accounts?

Your customers will welcome this plan. It is directly in line with the accepted method of financing purchases of other household commodities. You do not need to sell your customers on the idea of time payments. Merely tell them that they no longer need to delay modernizing their plumbing fixtures due to lack of ready cash; that they have from five months to two years to pay, with the privilege of having the use of the improvements while they pay for them.

To obtain complete information about this plan write today for a copy of "THIS WAY TO PROFITS." It tells the workings of the plan in detail. When you receive it you will understand how easy it is to create new business by this up to date method.

Standard Sanitary Mfg. Co. - Pittsburgh

"Standard" PLUMBING FIXTURES

STANDARD SANITARY MFG. CO., PITTSBURGH

Send me a copy of your book "THIS WAY TO PROFITS" which explains how I can use the Heating & Plumbing Finance Corporation Plan to increase my business.

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YORK
HIGH PRESSURE
Tank Heaters

MEET No. 201
Supplies 1 to 2 Families with Hot Water—Rated 100 Gallons
A little Heater with a BIG Guarantee

ABENDROTH BROTHERS
"Nearly a century in business"
Factory and Main Office
PORT CHESTER :: NEW YORK

FLAT TOP
No. 201
Just 22" high

Stack Ball Cock

Is made of red metal and designed for those who want the best.

1. Noiseless
2. Removable Seat
3. Will operate efficiently under high or low pressure without changing float or seat.

From your jobber. Write for Catalog No. 36.

ESTABLISHED 1894
THE STACK HEATER COMPANY

BALL COCKS
INDIRECT HEATERS
GAS WATER HEATERS
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TWO HUNDRED AND FIFTY STUART STREET
BOSTON

All Lead-Copper-Galvanized Iron

SIMPLEX AND JUNIOR FLASHINGS FOR EVERY ROOF CAN BE HAD IN EACH OF THE ABOVE METALS.

Write for prices and full information on the easily installed, durable SIMPLEX and JUNIOR Flashings.

SIMPLEX MFG. CO.
2644 N. Ashland Avenue
Chicago, Illinois

"Junior Flashings"

Plumbing Dont's

(Continued from Page 58)

often use gasoline to clean their hands and arms, and this should be conducted to the catch basin in the same way that any other gasoline is.

Furthermore, we have seen automobile parts cleaned in a pan of gasoline, and the gasoline then emptied into a lavatory.

Also, because the floor drains in a garage receive oil and gasoline, they should discharge only to the catch basin.

We know that it is exceedingly common practice to discharge the lavatory and to a less extent the floor drain, other than into the catch basin.

Don't No. 20.

Don't vent a rain leader trap, a back-water trap, a subsoil catch basin trap, or a cellar floor drain trap, provided the cellar floor drain branches into the house drain on the sewer side of, and at a distance of 5 ft. or more from the base of the stack.

Don't No. 21.

Don't connect a water closet into a horizontal soil line that is circuit vented, without laying the waste fitting on its side, that is, with the branch pointing out horizontally.

In other words, don't use the fitting in a position that makes the branch point upward.

When the fitting is in this latter position, it will be seen that a curtain of water covers the opening of the branch whenever the fixture is being flushed. Inasmuch as circuit venting depends on passage of air through the upper part of the horizontal soil line, to vent the fixture traps, it will be seen that this curtain of water, especially if it is being formed at several points by different fixtures seriously interferes with the necessary passage of air.

When the waste fitting is laid on its side, this obstructive action cannot take place, as the water glides into the main line at the bottom of the pipe.

Don't No. 22

Don't connect drainage into the storm water drain in the event that the dual system is installed.

The purpose of installing the two systems of drainage for sewage and for storm water is that they shall be kept entirely separate, and this should never be violated.

Don't No. 23

Don't install a lavatory or other elevated fixture on a circuit-vented line, without providing the fixture with a separate vent.

In certain parts of the country, such practice as shown in the incorrect illustration, is not only common, but it is recognized as entirely acceptable and desirable to the plumbing officials.

It is the belief of those who support this method, that the lavatory as here connected, is properly vented by the circuit vent to which it connects. It certainly is not thus vented in any respect, and is entirely subject to

AND SO THE PLUMBER'S WOODEN INDIAN WAS RESTORED

THE PLUMBER WHOSE WORK TAKES HIM INTO GASLESS DISTRICTS WILL FIND HERE AN AMAZING OPPORTUNITY FOR PROFITS

. . . and with the restoration of the PLUMBER'S WOODEN INDIAN came the restoration of old profits. Indeed, few plumbers will forget those old profits—when their Wooden Indian, the gas-fitter sign really meant something.

But when gas lighting went out of existence, and the plumber went out of the gas-fitting business, strange things began to happen. Newer and better uses for gas were discovered—the demand for gas became tremendous over night—and the gas industry began to expand beyond the wildest imagination. And then many plumbers, awakened to the new opportunity, restored their Wooden Indians and announced to the wide world that once more they were in the GAS-FITTING business.

MR. PLUMBER: this is an invitation to you (if you are anxious to grow with a growing industry—and, are aware of the importance of gas—and know the conditions beyond the gas mains) to restore YOUR WOODEN INDIAN and announce to your clients BEYOND THE GAS MAINS that once more you are in the GAS-FITTING business. It will also mean to those clients that YOU CAN PROVIDE THEM WITH A GAS SERVICE SUCH AS CITY DWELLERS ENJOY—AND WITHIN CITY COSTS TOO!

Can you picture the profits?

Here is an unusual merchandising plan, which makes it possible for the plumber whose work takes him into gasless districts, to cash in on a real opportunity—yet without diverting any attention from his regular business routine.

Let us present you with the new TIRRILL MERCHANDISING PLAN and tell you how you can tie up with this unusual profit-paying gas activity. The coupon will permit us to do so.

"TIRRILL"
THE DUPLICATE OF CITY GAS SERVICE BEYOND THE GAS MAINS

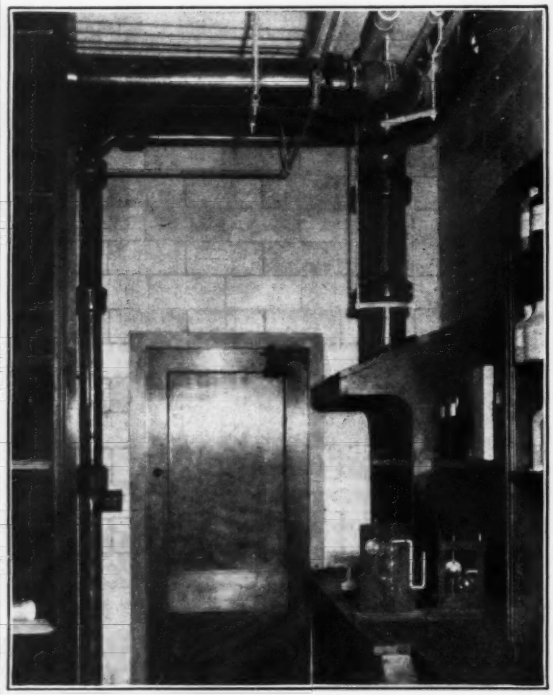
TIRRILL GAS MACHINE CORPORATION
50 Church St., N. Y. City
Dept. 100

Gentlemen:

Without any obligation on our part you may send us complete details of your merchandising plan, explaining how we can become a part of this new profit paying gas activity.

Name.....

Address.....



KNIGHT-WARE 9' Vent Duct from Hood and Waste Line—Princeton University.

Look Well To Your Ventilating Ducts . . .

Especially when they are handling acid and corrosive gases. Condensation which continually takes place causes strong, mixed acids to collect in these lines and it will not be long until replacements are in order UNLESS you have . . .

KNIGHT-WARE Acid Proof Chemical Stoneware Ducts which will be permanently proof against the action of all acids, alkalis and corrosive chemicals, solutions and gases, weak or strong, hot or cold, and then . . .

You are assured that your troubles are over. KNIGHT-WARE *will last the life of the building.*

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Beekman 1657

Philadelphia
1600 Arch Street
Rittenhouse 6300-6301

San Francisco
Merchants Exchange Building
Douglas 375

Montreal, Quebec
1307 Notre Dame Street, West
Main 2625

siphonic influence, induced by the flow of sewage through the main line.

The common use of this method in several of our largest cities is to be regretted.

Don't No. 24

Don't install traps more than 5 ft. from their vents. The distance mentioned shall be measured along the central line of the waste or soil pipe from the vertical inlet of the trap to the vent opening.

Don't No. 25

Don't connect the discharge pipe from a cellar drainer directly into any part of the plumbing system.

This pipe should have an indirect connection, that is, it should discharge into an open fixture, into a floor drain, or in some other similar manner.

The use of a check valve on a direct connection for the cellar drainer would not make the connection acceptable.

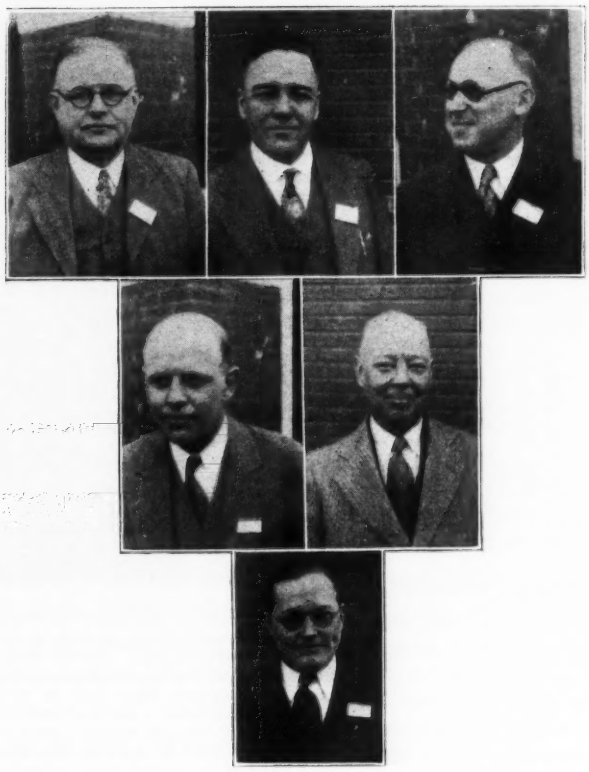
When direct connected, there would be danger of contamination of the water supply, if the drainer was operated by city water pressure. Contamination might result from sewage setting back into the drainer under certain conditions.

Underheated Rooms

(Continued from Page 81)

mately 60% greater than steam surface for the same heating effect at 70° room temperature, it would seem that a proportional shortage in hot water surface would produce the same proportional temperature in the room as a similar proportional shortage in steam surface. The fact must not be lost sight of, however, that all the diagonal lines must meet at a point somewhere off the chart and that this point is not the same with steam radiation as it is with hot water radiation. With steam radiation this point is where the room temperature equals the temperature of the steam at the pressure assumed for the basis of the calculations or about 220° F., while in a hot water system this point will fall to 180° F., this being the temperature assumed for the hot water in the radiator. It readily will be seen that when the room temperature reaches the temperature of the heating medium in the radiator, be it either steam or hot water, all transmission from the radiator will cease regardless of how much surface may, or may not, be installed. In other words, at such a point 100% radiation will give exactly the same heating effect as no radiation, which means that the top diagonal lines on the charts and the bottom diagonal lines must intersect at this point if the charts are consistent and correct.

Also, as all the diagonal percentage lines between 0% and 100% must fall between the 0% and the 100% lines, it follows that, if the 0% and the 100% lines intersect, all the intermediate lines must likewise intersect at the same common point. Owing to the fact that this common point does not come in the same position for steam as it does for hot water, the curves vary slightly in the two cases. The curves in Fig. 2, however, are used in exactly the same manner as the curves previously explained in Fig. 1.



Top row: C. B. Hamilton, of Winfield, Kans., new state president; J. E. Lansdowne, of Wichita, new state vice president; Carl McGregor, of Winfield, past president and new secretary. Middle picture: William Ball of Kansas city, Kans., and H. O. Green of Tulsa, national director. Bottom picture: Harry Stevens of Hutchinson, Kans.

Kansas Program Stresses Education

C. B. Hamilton of Winfield is new president; J. E. Lansdowne of Wichita vice-president, Harry Stevens of Hutchinson is treasurer

THE forty-second annual convention of the Kansas Master Plumbers' Association was held at Salina, March 10 and 11, with about seventy-five master plumbers on hand to enjoy the well-arranged program. Wives of master plumbers and representatives of supply houses boosted the total present to nearly two hundred. The program was almost entirely educational and a number of representatives of the University of Kansas read papers on subjects of interest to the plumbing and heating industry.

New Officers Are Elected

C. B. Hamilton of Winfield was elected president of the state association, succeeding Carl McGregor of the same city. J. E. Lansdowne of Wichita was elected vice president and Harry Stevens of Hutchinson was elected treasurer. Carl McGregor retiring president, was appointed secretary of the state body.

The following committees were appointed to handle the convention's business:

Educational—H. Stevens, Hutchinson.

Membership—W. R. Threlfall, Wichita, chairman; R. M. Hull, Pittsburgh; Guy Pettitt, Lawrence; D. G. Zimmerman, Hays.

Conference—Wm. Ball, Kansas City, chairman; H. P. Dunaway, Wichita; Fred Sellers, Independence; R. D. Anderson, Pratt.

Scholarship—W. T. Polley, chairman; H. M. Hartzell, Pittsburgh; K. Sawyer, Hutchinson.

Editorial—Mrs. Hornbrook, Kansas City; Mrs. Carl Graeber, Lawrence; Mr. W. T. Polley, Hutchinson.

Auditing—Bert Ebersole, chairman; H. E. Fairchild, Hiawatha; Carl Graeber, Lawrence.

Credential—J. M. Simmons, Wichita, chairman; Fred Lawhan, Arkansas City; F. J. Brune, Independence.

Memorial—George Sutherin, chairman; Guy Morrish, Oberlin; C. A. Powell, Manhattan.

Resolutions—J. E. Lansdowne, chairman; R. H. Hill, Nickerson; L. F. Wolfe, McPherson.

Sergeant at Arms—H. P. Dunaway, J. E. Merriman.

Talks on Advertising

W. A. Dill, director of advertising at the university, told of the best way to get results from newspaper, direct mail, billboard, circular and window display advertising. He said that advertising copy is just as interesting and important to the reader of a newspaper or mag-

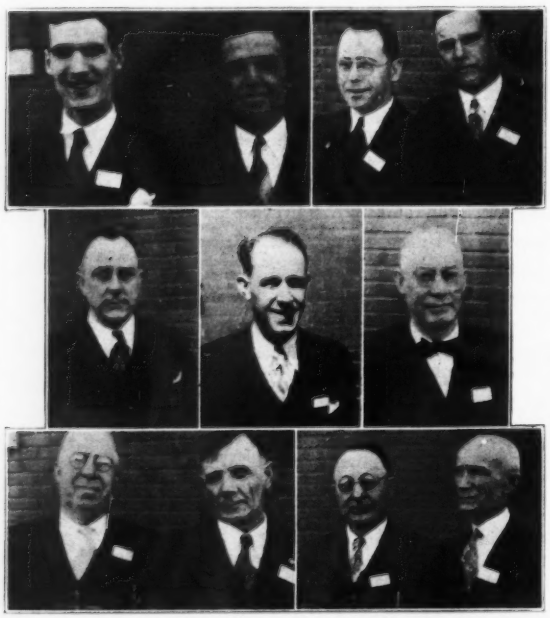
azine as any other part, and that too much care can not be taken to make the copy attractive and interesting, with a definite message. The modern idea of advertising, as he explained it, is not so much to sell goods as it is to let people know where they can get the things that they want and need, and remind them that they will need and want your goods or service in the future.

Mr. Dill said that advertising should remind the prospect far enough in advance of his actual needs so that he will appreciate having his attention called to what he may have forgotten. In illustrating this he said many people know far in advance that before another season they will need a new water heater, or boiler, but unless their attention is called to it they will not think of it again until they actually need the items, and will then have the old one repaired and make it do for another season.

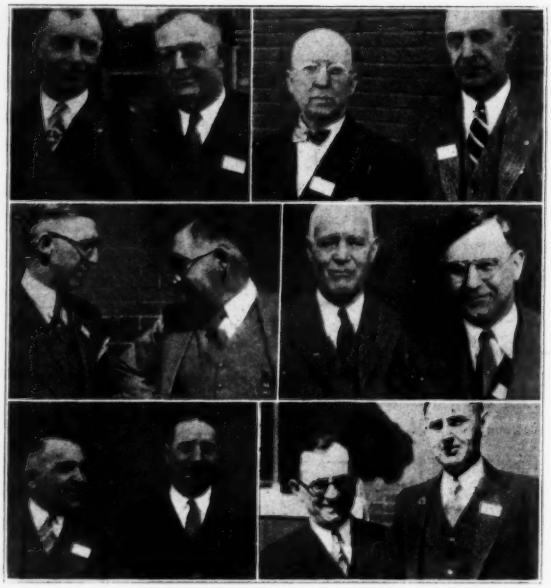
Speaking of direct mail and the use of envelope stuffers, Mr. Dill said that a dealer should first select his prospects and then use a lot of care in the kind of advertising material he sends to them.

Reads Paper on Heating Problems

A. H. Sluss, department of mechanical engineering of the University of Kansas, read a paper on general heating problems and advocated an acceptance test on all heating material. He said that planning of equipment is one part of the work and installing it is another part, adding that the setting of standards would allow the most worthy and efficient bidder to handle the job. He further said that the majority of heating contractors have the knowledge, and are trying to do what is right, and if they would demand good work and insist on a standard acceptance test on all work, it would take but a short time to eliminate the man who does not install work properly and who skins the job to make up for his low bid.



Top row: N. F. Skelley, U. S. Radiator Corp., Kansas City; R. R. Hicks, N. O. Nelson Mfg. Co., St. Louis, Mo.; D. H. Painter, Hoffman Specialty Co., Kansas City; H. V. Seevers, Mueller Co., Decatur, Ill. Middle row: Fred C. Burns, Kewanee Boiler Co., Kansas City; T. J. Tobiassen, C. F. Church Mfg. Co., Holyoke, Mass.; A. T. Olson, Lawrence, Kans. Bottom row: J. M. Connaughton of Wichita, C. E. Wilkie of Hutchinson, John A. Voran, Pretty Prairie, Kans.; O. W. Golden, manager of Hutchinson branch of Kellogg-Mackay Co. Photos taken at the convention of the Kansas Master Plumbers' Association



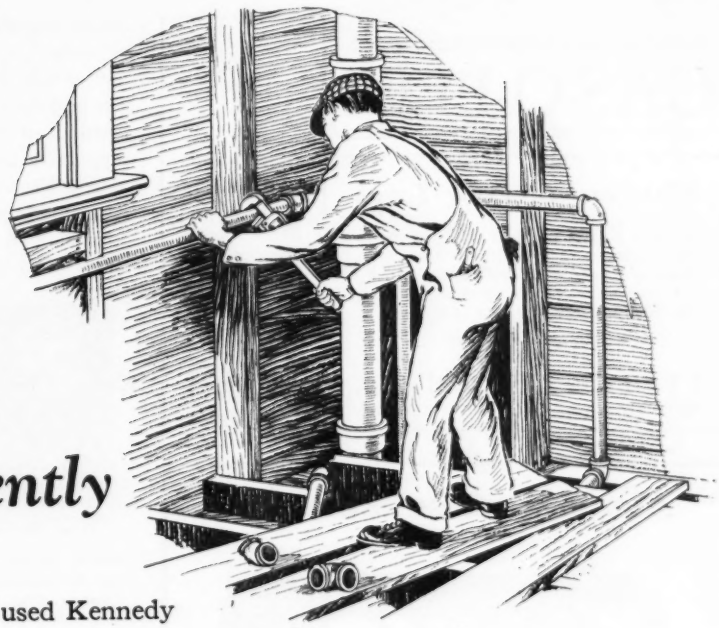
Top row: C. A. Smith of Wichita; M. J. Canary, U. S. Supply Co., Kansas City, Mo.; M. H. Mallory and R. G. Slater, both of Chanute, Kans. Middle row: Oscar Robinson of Wichita, H. P. Hertz of Hutchinson; E. Goodson, A. Y. McDonald Mfg. Co., Kansas City, and G. S. Halliday, Kellogg-Mackay Co. Kansas City. Bottom row: L. H. Scott, Wolverine Brass Works, Grand Rapids, Mich.; William J. Hebenstreet, manager, Kellogg-Mackay Co., Kansas City branch; J. J. Sheehan and M. E. Hollis, both of Standard Sanitary Mfg. Co., Kansas City. Photos taken at the convention of the Kansas Master Plumbers' Association

F. P. Hitchcock, Kansas City representative of the Herman Nelson Corp., Moline, Ill., read a paper on the sale of unit heaters and their installation, in which he described the various types of unit heaters and how they can be used to advantage. He gave a short history of the various types of radiation and said that unit heaters are a result of the natural development of the heating industry to fill a demand for certain types of buildings. He said that too much care cannot be taken in selecting the proper kind of unit heater and locating it so that it will give the maximum amount of heat with a minimum heat loss. He advised the master plumber not to talk too much of price, saying if they have a good quality of goods they can demand and get a good price.

A representative of a large manufacturer of mechanical refrigeration spoke on the value of refrigeration and told of the various kinds of cooling systems manufactured. He expressed the opinion that room cooling for residences will be one of the most important parts of refrigeration within the next few years. He said that his firm has sold 1,200,000 mechanical refrigerators for homes and apartments and that only about three per cent of the prospective market has been served. He also said that the immediate potential market for water coolers is $300,000,000 and that water coolers should be selected according to the class of people they are to serve, as dif-

Tight Joints

—*quickly and permanently*



PIPE fitters who have once used Kennedy Valves and Fittings like them because they are well made, with uniformly clean, sharp, accurate threads that speed up pipe fitting jobs, and also because they stay tight and give lastingly good service.

Kennedy Bronze and Iron Body Valves, and Malleable Iron and Brass or Bronze Pipe Fittings cover practically every requirement in the plumbing and heating field, so that standardizing on Kennedy Products means a single and dependable source of supply for all your needs.

Order Kennedy Valves and Fittings for your next job—you can get them from your wholesaler at prices in line with the market.

THE KENNEDY VALVE MFG. CO. ELMIRA, N.Y.

WAREHOUSES: New York, 128-132 White St.; San Francisco, 448-450 Tenth St.; Chicago, 1335-1337 South Clinton St.

SALES OFFICES: New York, Philadelphia, Cleveland, Chicago, Salt Lake City, El Paso, Los Angeles, Atlanta, San Francisco, Seattle

Kennedy Products Include

Valves

Gate, Globe, Angle, Check, in bronze, iron body, all iron for a wide range of pressures; also Radiator Valves and Special Valves.

Pipe Fittings

Malleable Iron Screwed, Brass or Bronze Screwed, Cast Iron Flanged Fittings and Flanges.

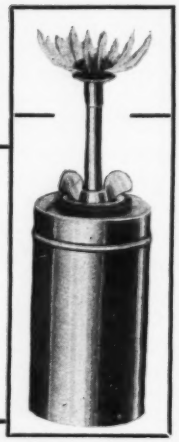
Fire Hydrants

Sprinkler Valves, etc., for fire protection.

KENNEDY

VALVES-PIPE FITTINGS-FIRE HYDRANTS

GAS-O-LITE



Plumbers' Lighting Torch

Here is a light that will save you time and money. It gives eight times the light of a candle and will not blow out or drip wax. Holds enough gasoline to burn from two to four hours.

If your jobber has not stocked these we will supply you.

LITTER TORCH CO.
Meriden :: Conn.

Air-Tight Steel Tank Co.
PITTSBURGH, PA.

TANKS

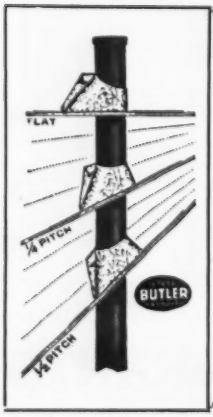
TANKS FOR: High pressure gas and air storage—Pneumatic water systems—Gasoline and oil storage—Oil burning equipment—Open top—Welded. ATSCO Genuine Copper Brazed tanks for high pressure—the tightest, safest, strongest tank it is possible to construct by any known process. A.S.M.E. code tanks.

Double Service

That's what you're sure of when you use Dart Unions. The two bronze seats render them leakproof and the extra metal built into the heavy nut and shoulders make for greater strength.

Use Dart Unions!

E. M. DART MFG. COMPANY
Providence, R. I.
The Fairbanks Company, Sales Agents
Canadian Factory, Dart Union Company, Ltd.
Toronto, Canada



Overton Flashing

Your jobber has Overton Roof Flashings or can get immediate delivery of them for you.

You ought to try Overton Roof Flashings, for your own profit and your customers' satisfaction.

Send your order today and know what it means to have an easy roof job.

BUTLER MFG. CO.
Minneapolis . . Minn.

ferent classes of workers need different temperatures of water.

A debate by students of the Kansas Agricultural College and University of Kansas was one of the interesting features of the program and each school found strong supporters among the master plumbers.

Guy Pettitt, a former member of the association and now plumbing inspector for the Kansas state hotel commission, told of some of the problems that confront his office. He told the association members that they are

Left to right: F. D. Kastner, Salina; Ellis Billings, Arkansas City, Kans., state secretary; William B. Talbott, manager of Baker Mfg. Co., Kansas City; J. M. Simmons of Wichita

making a serious mistake in not being active in state politics as an association.

National Director Green Talks

H. O. Green of Tulsa, Okla., national director, told of the elaborate plans being made to entertain the forthcoming national convention at Boston, Mass., and urged all to attend. He said he looks upon Kansas as one of the most productive states in the union and predicted a goodly amount of building throughout the state this year. He spoke briefly of the committee of the national association now working on the matter of trade practice rules.

He read a letter from E. L. Flentje, manager of the Plumbing and Heating Industries Bureau, outlining the work being done by the bureau and its plans.

Mr. Green said that the secret of success of any business is to make friends and then satisfy your friends that you know your business and will treat them fairly. He said that too many master plumbers blame their failure on bad competition, while the government report shows that, out of every one hundred failures among master plumbers, 35 per cent fail for lack of accurate accounting systems, 60 per cent fail because they do not know the costs of the goods they sell and only one per cent fail on account of competition.

In closing, Mr. Green said that the welfare of the master plumbers depends upon the size and character of the membership of the national association, adding that he cannot understand how any man can be in the plumbing business without wanting to be a member of the national association.

A very impressive memorial program was conducted by Mrs. E. D. Hornbrook of Kansas City, Mo., past national president of the Woman's auxiliary. She referred to the loss suffered by the industry in the death of the late John A. Quinn. Mrs. Hornbrook expressed the hope that some time a memorial will be erected in honor of the pioneers of the plumbing industry, adding that Mr. Quinn was an example of the long list of men who had toiled for the upbuilding of the industry.

Lighting the Way

Like a beacon in the dark, the A.B.C. Torch of Verified Circulation shows the safe road of Sound Advertising Practice.

All the investigating and reporting organization of the Bureau is at the service of the advertiser, furnishing reports on practically all the worthwhile publications of the United States and Canada.

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DOMESTIC ENGINEERING, we are proud to say, is a member of the A. B. C.

DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising

1900 Prairie Avenue CHICAGO

BURKS
SUPER-TURBINE
PUMPS

WATER SYSTEMS

SUPERIOR PERFORMANCE—
When a Burks Pump starts from "scratch," it picks up its load gradually without any over-load on the motor. When it reaches full speed, real performance begins. The Burks has never been out-performed yet!

SIMPLICITY—
Only one moving part—just a small turbine wheel that does not contact with metal at any time. This means freedom from break-downs.

SERIES 7750
HOME WATER
SYSTEM

Just out—our New Water System Bulletin No. 90, Also New Condensation Return Bulletin No. 91. Send for a copy.

DECATUR PUMP COMPANY DECATUR, ILLINOIS.

A Choice of the Best

THAT'S what you get in replies from a "Domestic Engineering" Want Ad.

No matter what your problem—if you want a job or a man for a job, if you have some used equipment to sell or want to buy some, if you want to know what the leading books on plumbing and heating are, if you want bids on a job—a "Domestic Engineering" Want Ad will solve that problem.

Domestic Engineering
1900 Prairie Ave. Chicago, Ill.

Montclair and Vicinity Association Holds Banquet

Aiello Hall, Montclair, N. J., was the scene on March 3 of the annual banquet and dance given by the Master Plumbers' Association of Montclair, Bloomfield, Verona and Vicinity, which was attended by nearly two hundred master plumbers, their wives and friends. William Chesnut, past president of the New Jersey state association, presiding as toastmaster, welcomed the gathering and presented several speakers, each of whom spoke briefly. The first to be introduced, Mrs. William T. J. Orriss, president of the New Jersey state women's auxiliary, brought felicitations from that organization. National Director George Werner next offered the greetings of the national association and urged every one to attend the forthcoming national convention at Boston in June. A. C. Krieger, president of the New Jersey association, on being presented added his greetings and commended the auxiliary for its work.

The speaker of the evening, the Rev. Willard G. Purdy of Montclair, gave a forceful talk on association activities, saying that in the master plumbers' group, as in all similar organizations, there are both good and bad influences and effort should be directed toward the predominance of the former.

Those serving on the committee that conducted the arrangements were as follows: William Chesnut, chairman; H. E. Burnett, Cornelius Bush, J. E. Blodgett, Joseph Capute, Walter Galloway, Raymond Kierstead, A. N. Kievit, Charles J. Samuel, Fred Sherman, David B. Van Sant, H. J. Weingartner, Henry J. Williamson.

◆

Michigan A. S. H. V. E. Members Are Guests at Power Plant

The members of the Michigan Chapter of the American Society of Heating and Ventilating Engineers were the guests of the Detroit Edison Co. for their February meeting at the Edison company's Delray power plant. The attendance numbered 160 members and guests.

After dinner was served, E. E. Dubry of the Detroit Edison Company, directed the course of the meeting, introducing B. W. Thompson of the same firm. Mr. Thompson discussed various mechanical features connected with the Delray plant; and was followed by Sabin Crocker, also of the Edison company staff, who gave an address on the heating and ventilating system used in the Delray power house.

George Giguere, Edward M. Harrigan and S. S. Sanford commented upon the success of the national society's exposition and annual meeting, held in Philadelphia during the latter part of January.

Following the meeting, the entire group made a tour of inspection through the power plant, where observations were made of the different subjects discussed by Mr. Thompson and Mr. Crocker.

◆

District of Columbia H. & P. Contractors Move Offices

The Heating and Piping Contractors District of Columbia Association, D. C., has announced the removal of its headquarters from 710 14th street to 2539 Pennsylvania avenue, Northwest.

Banquet of the Master Plumbers' Association of Newark, N. J., held at the Elks Club

Newark Masters Enjoy Annual Party and Banquet

The Master Plumbers' Association of Newark, N. J., at its thirty-fourth annual banquet on February 15 in the Elks club of that city, entertained the members, their families and friends, with a program of music, singing and dance exhibitions by a group of artists. In the plans no provision was made this year for a speakers' table, in the absence of which many of the prominent persons present by way of introduction were escorted about the room by Herman E. Baumgartner, president of the association.

Among these dignitaries were State President A. C. Krieger, North Hudson; Past State Presidents: W. T. J. Orriss, North Hudson; S. C. Fredericks, Newark; William Chesnut, Montclair; Walter Grub, Newark, and B. Joseph O'Donnell, Syracuse, N. Y., past president of the New York State Association and field representative of the Fairfield County, Conn., association. A number of politically prominent officials were also presented in this manner.

The committee whose efforts were responsible for the formation and carrying out of the plans, which were quite elaborate, comprised: Fred J. Engelberger, chairman; James N. Sheridan; Otto R. Groel; Joseph Miners; Joseph C. Turbett; Max B. Cohen; August Struening; Max J. Mayr; Herman E. Baumgartner, ex-officio. Dancing occupied the guests until a late hour.

◆

York Association Banquet Held in February With Large Attendance

The ninth annual banquet and ball of the York, Pa., Master Plumbers' Association was held at the Yorktowne hotel in that city, on February 20. It was one of the largest gatherings this association has had; more than 275 people were in attendance, with delegations from Philadelphia, Reading, Harrisburg, Allentown, Chester, Easton and Lancaster, Pa.

After the banquet, toastmaster C. F. Troutwine of York, introduced the speakers of the evening, including Maney J. Feeney, national secretary and treasurer and president of the Philadelphia Association; James F. Rhoads, state secretary and treasurer, Chester, Pa.; George M. Hicks, chairman of state membership committee, Philadelphia; E. D. Swoyer, vice president of the state association, Allentown, Pa.; and Harry Stilwell, Philadelphia.

Flowers were given to Mr. Rhoads to present to David S. Sanderson, president of the state association, who was unable to be present. Mrs. Harvey Weigle, past president of the York ladies' auxiliary, was also presented with flowers, as was C. W. Brown, retiring president of the York association. P. H. Smith, manager of the York association baseball team, received a basket of flowers from the members of the Reading association baseball team. Each lady was presented with a box of assorted cosmetics.

The new officers of the York association are Frank Hoffman, president; M. H. Simon, vice president; P. H. Smith, secretary, and F. W. Behler, treasurer. Officers of the ladies' auxiliary are Mrs. J. Simmons, president; Mrs. E. Wise, vice president; Mrs. P. H. Smith, secretary, and Mrs. M. C. Lanius, treasurer.

The committee in charge of the banquet included George T. Picking, chairman, J. Simmons, F. Behler, P. Weigert and C. F. Troutwine.

◆

Wilmington Masters Dine and Dance at Elk's Ballroom

The Master Plumbers' Association of Wilmington, Del., recently held its annual banquet and dance in the ballroom of the Elks' home, Twelfth and Market streets. More than 100 couples attended. The committee on arrangements for the affair was composed of Isador Golden, chairman; Walter H. Smith, William R. Orpen, James J. Olivere, James Wharry and Joseph J. Rapuana.

Among those attending were: Charles J. Crockett, general sales organizer for the Hajoca Corp., Philadelphia; Willard Speakman, Jr., Clinton Brown, Edward Ball, Mrs. George Barnett, president of the ladies' auxiliary; James P. Ponsell, newly elected president of the association; George Bigger, Mrs. Robert White, Mr. and Mrs. Harry I. Bell, Mrs. Charles Givney, Mr. and Mrs. Frank H. Escott and Mr. and Mrs. Paul E. Middleton.

North Dakota Convention Adopts Zone Plan

New State Plumbing Laws Proposed

AN IMPORTANT piece of business accomplished at the tenth annual convention of the State Association of Master Plumbers of North Dakota, held in Minot, March 4 and 5, was the adoption of a proposal to divide the state into zones, with one director in each zone, charged with the responsibility of obtaining members for the association. In this connection an aggressive campaign for an increased membership will be conducted.

The officers elected for the ensuing year are: Joseph Keller of Fargo, president; A. W. Hoppert of Wahpeton, vice president, and Peter W. Grady of Grand Forks, secretary and treasurer. The directors are H. A. Thompson, Bismarck; B. J. Craton, Larimore; Frank Gallagher, Jamestown, and J. J. Tigue of Minot.

Committees appointed were as follows: Credential: P. W. Grady and Karl Moser; resolutions: Robert Gibbs and Andrew Peterson; auditing: George Casper and Jacob Benz; transportation: T. J. Garrity and Otto Wendt; publicity: J. J. Tigue, Harry Mowbray and Charles Snyder; condolence: F. A. Hulteng and H. A. Thompson; nominating: R. C. Spriggs, C. A. Wiley and A. W. Hoppert.

It was decided to hold next year's convention in Grand Forks on March 17 and 18.

Plumbing Laws Proposed

The association is considering requesting the state legislature for considerable new legislation affecting the plumbing industry, and J. L. Hulteng of Grand Forks was named as chairman of the committee to have charge of this work. Adoption of a resolution is also being undertaken by the association for the "purpose of guarding against improper plumbing installations and poor workmanship, thus safeguarding the health and sanitary conditions of the people."

F. A. Beier Speaks

Fred A. Beier of St. Paul, Minn., a director of the national association, spoke of the activities of that organization, and discussed the relation of the national body to the state and local groups. In another talk he stressed the necessity for adopting the time payment plan in an effort to sell more plumbing and heating merchandise; the value of up-to-date office methods; effective but inexpensive advertising; and the sale of fixtures for replacement rather than the continual repairing of the old.

After Rasmus Lunseth, president of the state association during the past year, had given his address, C. A. Waldron gave a discussion of the North Dakota lien laws. H. G. Hellstrom of Minneapolis, Minn., gave an address on "State Plumbing Laws and Codes," in which he explained a proposed statute for North Dakota.

Joseph Keller, state president

A plan to give practical help to plumbers of the State by means of evening trade schools was presented by E. F. Riley, president of the North Dakota State School of Science at Wahpeton. These evening schools for tradesmen are planned as "pusher" courses for men already in a specific trade and are conducted in co-operation with the public schools.

Merchandising Methods

A. W. Hoppert, the new vice president of the state association, spoke at some length on "General Business," saying in part:

"My first thought is to touch some of the high spots of what the public knows about the plumbing business. The public knows less about the plumbing and heating business than it does of any other line. I had at one time thought they knew all about it, but I have found out since that they know very little, if anything, about plumbing.

"The only business men, outside of the trade, who have a fair knowledge are the building contractors and architects, and these people too often have wrong opinions.

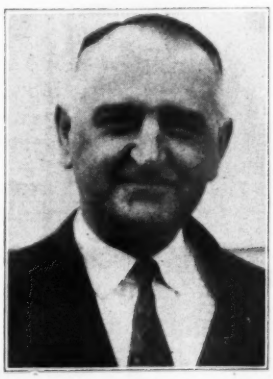
"In this locality and a good many other localities the public has the impression that the plumber is a high-priced workman, whom they call in to make repairs. It is natural for some people to think so, in view of the fact that a large majority of people do not build their own homes. The homes are built by construction companies, the owners buying them completely finished; therefore, their only contact with the plumber is when repairs are necessary. Another good reason is that the most impor-

tant part of the sanitary installation is hidden behind the walls, and covered up with plaster. The public only sees the fixtures which are visible, and therefore can not visualize the value of the work which is concealed under the floors and in the walls. How are we going to correct this situation? We must learn to buy and sell merchandise under modern business methods, to advertise, to create a market for better materials and to build good will.

Rasmuth Lunseth

"It has been customary," continued Mr. Hoppert, "to sell our customers almost anything they wanted to buy, and the customers, not knowing the real value and service of the various plumbing fixtures, usually purchased the cheaper kind with the impression that they were saving money, because the plumbing merchandise was not properly advertised and the purchaser knew very little about it. Usually it was customary for us, and the same thing may be true today, that we quote prices on a complete job, including both the fixtures and labor. This usually gives the customer the wrong impression that plumbing is expensive. They do not know which part is expensive, whether it is the fixtures and rough material or the labor. We, in the business, know that plumbing is not expensive; therefore, it is up to us to educate the public to these facts. If you ask anyone not engaged in the plumbing business what they think of plumbing, nine out of ten will begin by telling instances in which they

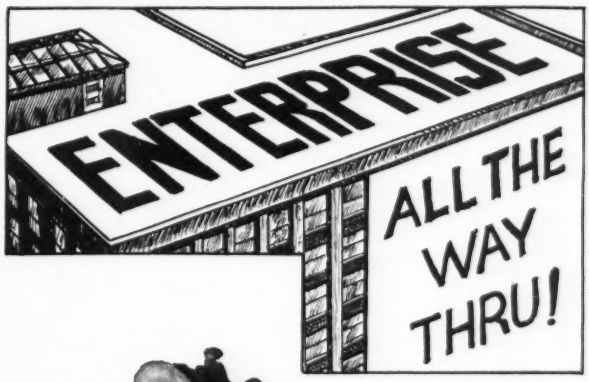
"An important part of merchandising is that the materials must be owned and displayed by the plumber. There isn't anything that gives confidence to the public like a good stock of merchandise. The practice of selling out of a catalogue should be done away with. When you try to sell merchandise which you do not own it gives an impression to the customer that you are only interested in the labor—therefore, the public thinks of the high cost of plumbing labor. But display the fixtures to anyone with ordinary intelligence and he can see the value and you can give your own talking points.



F. A. Beier

"To merchandise, you must have selling plans and do advertising. You could display a complete outfit for a bathroom in your show window, but without the proper advertising to get the public's attention, part of the effect is wasted. A show-window should be changed often and your advertising linked up with the merchandise in your show window."

Another interesting talk made at the convention was

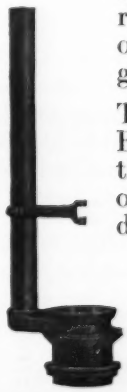


THOSE larger jobs that you're anxious to get—office buildings, apartments, etc. — will be easier sold if you go in armed with the Enterprise story of quality—and the Enterprise reasonable price.

These larger structures require, and are demanding Enterprise quality all the way through. They want beauty in faucets that will appeal to tenants and they want tank trimmings that will not only look good at the beginning but continue to wear and look good through the years.

Cheap brass goods in the beginning means months of grief—until the stuff is replaced with good material. Builders know the wisdom of installing *good* brass goods.

That's why they'll buy Enterprise, if you ask them! See your jobber or write direct for full details.



Enterprise Brass Works
Muskegon Michigan

by W. W. Hughes of Minneapolis, who spoke on "The Plumber as a Retailer." A. F. Hulteng spoke on the "Development of the Jobbing Business," and Andrew Peterson of Grand Forks, spoke briefly on present day trends in plumbing and heating equipment and the profits to be derived from the sale and installation of modern heating and plumbing merchandise.

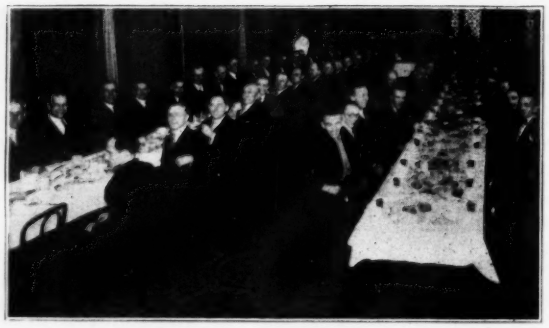
Local arrangements for the convention were made by a committee of three association members of Minot, consisting of J. J. Tigue, chairman; Harry Mowbray and C. A. Wiley.

◆

Richmond Association Holds Successful Banquet

The annual banquet and entertainment of the Master Plumbers and Heating Association of Richmond, Va., held February 28, at the Acca Temple Shrine Mosque, assembled a group of approximately 75 members and guests. Teamwork for greater prosperity in the plumbing and heating branches of the construction industry was emphasized by two speakers, familiar with present business trends throughout Virginia, in addresses made before the assembly.

L. U. Noland, president of Noland Co., Inc., Newport News, Va., in his address, gave an explanation of the Federal Trade Practice conference rules, now being applied to the wholesale and manufacturing divisions of the plumbing and heating industry. Arthur Leath, credit manager of the Richmond branch of Tomlinson Co., Inc., Philadelphia, Pa., declared that home modernizing and remodeling, coupled with the application of the installment selling plan, seem the best avenue, at the present time, for an increase of business and profits.



Banquet given under the auspices of the Master Plumbers and Heating Association of Richmond, Va., Inc.

While the banquet was in progress, orchestra music and singing and dancing were provided for the gathering's entertainment. H. G. Longworth, president of the Richmond association, acted as toastmaster. Composing the entertainment committee were T. E. Beckner and R. H. Griffin, executive manager of the local organization.

Included in the assembly were the local managers, and their assistants, of Crane Co., Chicago; American Radiator Co., New York City; Standard Sanitary Mfg. Co., Pittsburgh; Kohler Co., Kohler, Wis.; James Robertson Mfg. Co., Baltimore; National Radiator Corp., New York City; Pierce, Butler and Pierce Mfg. Corp., New York City; Noland Co., Inc.; Hajoca Corp., Philadelphia, and Tomlinson Co., Inc.

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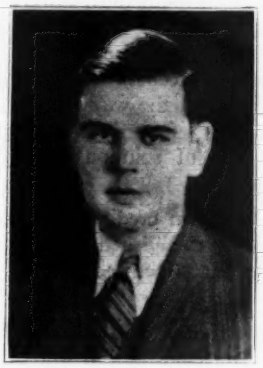
Illinois Chapter Holds March Meeting

Professors A. C. Willard and A. P. Kratz were the speakers of the evening at the March meeting, held on the tenth in Chicago, of the Illinois Chapter of the American Society of Heating and Ventilating Engineers. The high attendance which the meetings have been attracting was maintained. T. J. Duffield, recently appointed executive secretary, was present and introduced to the chapter members.

Professor Willard opened the program with a presentation of the results of research which has been in progress at the University of Illinois under his direction. The subject was wall surface temperatures and their effect on heat comfort. This was discussed in reference to breathing line and comfort line temperatures and constitutes one part of an extensive program of research which has been and is now in progress. Another part of this work having to do with "Investigation of Heating Rooms With Direct Steam Radiators Equipped With Enclosures and Shields" was referred to in the talk, a complete report of which was published in Bulletin 192, in June, 1929.



P. F. Callaghan, Jr. **L. W. Washington**

New members of Illinois Chapter

Slides were used to illustrate the improved distribution of radiator convected heat in a room as a result of correctly designed radiator enclosures and shields. It was pointed out that with the breathing line temperature constant, the enclosure increased the comfort line temperature (thirty inches above the floor). In addition, protection of the radiator from the wall made operation more efficient.

Professor Willard showed very clearly how it could be that in two different rooms wherein the air temperatures are exactly the same, a person is entirely comfortable in the room where the wall temperature is high or the same as the air temperature and very uncomfortable where the wall temperature is much lower than the comfortable air temperature. This was explained by the fact that the body radiates its own heat to the cold wall and thus experiences the sensation of cold.

The second talk of the evening, delivered by Professor Kratz, was in discussion of the proposed A. S. H. V. E. code for the testing and rating of steam heating solid fuel boilers, of which he has made an extensive study.

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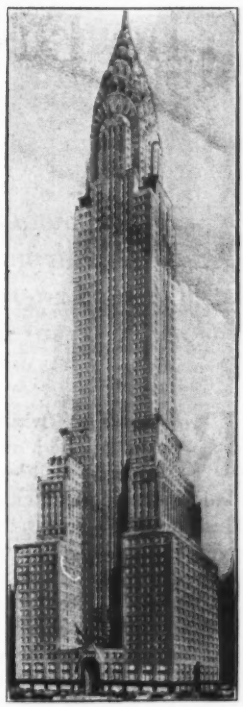

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The Distribution Problem

By E. B. KLEINE

The following essay on distribution was prepared by E. B. Kleine of Cincinnati, Vice President of the Ohio Master Plumbers Association and was read at the recent annual convention of that organization

E. B. Kleine

RECENTLY while glancing through a plumbing publication I noticed the following captions: "How to Sell"—"Start Selling Now"—"City Is Made Plumbing Conscious" and others of similar nature. This in turn brought to my mind a certain sales talk given at one of the conventions in which the speaker stressed merchandising, mass production and methods of distribution. The educational program suggested by those captions is excellent, but standing alone its effect can only be temporary. It might be compared to a housewife busily engaged in cleaning the dust from the furniture with an old fashioned duster. The dust is knocked into the air and the furniture appears clean, but immediately it settles back on the furniture and more cleaning is necessary. In other words, to properly remedy a situation one must go to the heart of the trouble before a satisfactory result can be attained. The question is whether the present plan of distribution is to endure, what are the difficulties at present and how and by whom they can be remedied.

The master plumber and wholesaler have looked for most of their relief through limitation and restriction of distribution but have been unable to have a meeting of minds on the method whereby relief might be obtained.

The manufacturer that supplies the goods has a right to expect adequate distribution, the wholesaler is entitled to satisfactory movement and the plumber is entitled to non-discrimination. The manufacturer does not alone control the situation. He would find it hard should he choose the direct method of selling in order to overcome the competition among the large number of wholesalers, none of whom propose to become obsolete. He would find it difficult to replace the great number of dealers now in existence. Neither can one say that the wholesaler controls the situation, for he realizes that if the manufacturer wishes he can go direct to the dealer, even though it might work to his or to the consumer's disadvantage and that it would necessitate that he, the wholesaler, either change his method of business or his lines. Neither does the plumber control the situation, for the wholesaler and the manufacturer might, if they so desire, go directly to the consumer.

There is a tendency today on the part of certain short-sighted manufacturers, wholesalers and master plumbers to ignore the long established method of distribution. Too many, I fear, think the short cut is the solution to their problems, which if encouraged and persisted in must ultimately break down the present method of distribution.

When master plumbers form purchasing companies, agencies or clubs and buy direct from the manufacturers they perform some of the functions of the wholesaler, and the added burden of their overhead cannot be estimated; neither will they be able to escape the natural consequence of such a policy. It is not the way to continued profit or future success.

There are three possible methods of solution to the problem, as I see it:

1—Adoption of a reasonable but firm credit plan.
2—Sale by manufacturers to only established jobbers.
3—A resale price on as many manufactured articles as possible.

The adoption of a credit plan similar to the Biddle credit plan should appeal to the manufacturer and wholesaler in that it would insure prompt payment and thereby reduce overhead costs and, if precedent means anything, they would show a larger volume. This plan is being used by the Allied Construction Industries of Detroit with splendid results. It should appeal to the master plumber because he would then know he is not being discriminated against by being placed in unfair competition with the contractor who does not pay his bills. Under this plan, contractors who do not pay for one month's purchases by the 10th of the following month are put on a cash basis and thereafter no wholesaler can sell to them except for cash.

The sale by manufacturers to only established jobbers should appeal to the manufacturer from the standpoint of creating a satisfactory sales outlet. It should appeal to the jobbers in that they would be assured of fair competition from persons of trust and reliability; and to the master plumber in that he will not have to fear competition from unfair, irresponsible contractors or fly-by-night shops.

A resale price on articles should appeal to the master plumber in that there would be a stabilized resale price and the sale would be confined to responsible dealers selling at a profit.

Therefore, the present method of distribution, properly adjusted, is the only system that insures the survival of all three branches of the industry. It is only through the co-operation of each integral part that the structure can continue to endure. The satisfactory consummation of a strengthened plan of distribution, coupled with a just and reasonable credit plan, augmented by an educational program, will lead to the result desired by the manufacturer, the wholesaler and the master plumber.

Two New Locals Formed in New Jersey

New associations were formed recently at Millville, N. J., and Burlington, N. J., through the efforts of State President A. C. Krieger, State Secretary William T. J. Orriss and State Field Secretary Edward B. Moore. The former, with ten members, elected F. M. Bullock, president, and William Moore, Jr., secretary-treasurer, while the latter, with eight members, chose Leon Irwin, president, and Albert Lewis, secretary-treasurer.

◆

Survey Reveals Satisfied Owners of Certified Heating

The Heating & Piping Contractors' Milwaukee (Wis.) Association recently mailed letters to some 300 owners of certified heating systems asking for comments as to the efficiency of the plants, and, according to Carl J. Marsh, executive secretary of the organization, only four complaints were received. These complaints were promptly attended to and the owners expressed considerable satisfaction in the association's interest in the matter, according to Mr. Marsh. He said many other replies were received expressing complete satisfaction with the manner in which the systems were operating.

Four new members have been taken into the association. They are: Walter Dearsley, Walter J. Witt, Reliable Heating Company, and J. B. Bobber.

◆

Tri-City League Gives Dinner-Dance

The first annual dinner-dance of the Tri-City Plumbing and Heating Trade Development League was held on the evening of February 26 at the Moline Elks auditorium, Moline, Ill., with 200 members of the league and guests in attendance. An excellent dinner was served, followed by several acts of professional vaudeville.

Dancing was enjoyed until a late hour to the music of Johnnie Day's orchestra. Mr. Day is a member of the league and is employed by Channon & Dufva Company of Rock Island.

Because of the success of the affair the officials of the league are planning several more dinner-dances during the year.

L. R. Sidney of Crane Co., Davenport, Ia., is chairman of the entertainment committee. The other members of the committee are: John A. Day, M. J. Mulcahy, H. F. Lamp and E. Reimers, all of Rock Island, Frank Martins of Davenport, and Leonard Johnson and E. I. Lovested of Moline.

◆

Wisconsin Chapter, A. S. H. V. E. Hears Homer Linn

The regular monthly meeting of the Wisconsin Chapter, A. S. H. V. E., was held on February 17 at the Milwaukee Elks' club. President Weimer opened the meeting by calling upon John S. Jung for a summary of the high-lights of the Philadelphia meeting.

Howard Haupt, who was in charge of the February meeting, secured as speaker of the evening, Homer R. Linn of the American Radiator Co. Mr. Linn spoke on the subject, "The Status of the Oil Burner in the Heating Industry." Statistics were quoted of installations and oil consumption. The speaker also brought out the relative importance of controls, boilers and chim-

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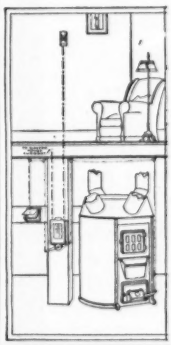

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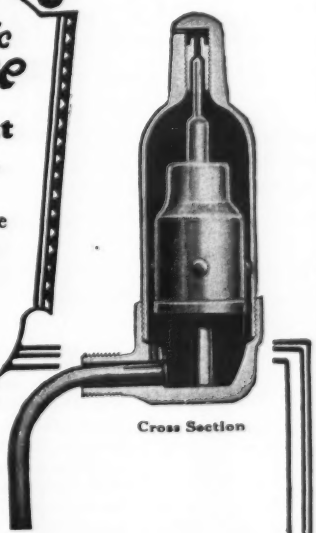

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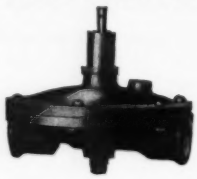

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neys in the satisfactory and efficient operation of oil burner installations.

Following Mr. Linn's talk, the meeting was opened to general discussion. Many questions were asked which indicated a keen interest in the subject. It was generally agreed among the thirty-seven members and guests, including some of Milwaukee's leading architects, that the meeting was highly educational.

◆

Washington, D. C., Masters Hold Installation of Officers

The Washington, D. C., Master Plumbers' Association recently held its annual installation of officers, at which time the following members received the oath of office: Frank Kerr, president; John M. Beane, first vice president; Harry McCarthy, second vice president; Frank Bentley, secretary; R. J. Barrett, treasurer; and J. E. Leins, sergeant-at-arms.

All members of the board of directors were re-elected including Mr. Barrett, John Boyland, Elmond Ewing, W. E. Owens and F. W. Kohler.

◆

Milwaukee Club Elects Officers

The North Side Pleasure Club, an organization of master plumbers at Milwaukee, Wis., has elected the following officers: John Grimm, president; Walter Dusold, secretary-treasurer, and Hugo Berndt, vice president.

Tow row: C. W. Higgins, Donald O'Hair, E. J. Kraus and R. P. Olsen. Middle row: H. M. Callahan and J. W. Forsythe. Bottom picture: The "mental hazard" on the 16th. Photos taken at the recent golf meet of the Plumbing and Heating Club of San Francisco

Questions?

ASKED BY READERS AND ANSWERED BY EXPERTS

More About the Main Trap

Editor, DOMESTIC ENGINEERING: Our village, located in western New York, has a population of 1,200. There is no sewer system. All sewage is taken care of by septic tanks or cesspools.

I have not been using a trap in the main soil line. Is it a benefit to use one?

If a sewer system should be put in, would it be necessary to change the soil line to put in a trap?

Does the state code require a trap to be used?

I remember reading in a plumbing paper that a main trap is an unnecessary expense.

New York. F. H. A.

This inquiry requires the answering of several distinct questions. In the first place, there would be no reason for installing a plumbing system that discharged to a public sewer any differently than the same plumbing system if discharging into a septic tank. There would be no reason for omitting the house trap from a septic tank job if it was a necessity on the plumbing system emptying into a public sewer. If the house trap were required in one case, it would be in the other.

This question of house trap is a disputed one—some favor it, and some do not. However, we feel that in recent years love for the house trap has waned to a considerable extent.

It happens that many who once felt it to be a necessity no longer feel that way, and we are among this number.

Several facts account for this changing opinion and practice. In the first place, the English Government several years ago appointed a commission of experts to look into this practice, and their final judgment, backed by a mass of indisputable evidence, was that the house trap is actually a detriment to the plumbing system.

In the second place, the Hoover investigation into plumbing practice reached a similar conclusion. Moreover, the trend of the times is toward simplification, and so, if the house trap accomplishes no good purpose, why burden the plumbing system with it, and the house owner with the considerable additional expense that it represents.

The big argument against the house trap is that it acts as an obstruction in the main drainage line. Not only is it an obstruction to the free flow of sewage, but it is an obstruction to the free ventilation of the sewer through the roof pipes of each separate plumbing system.

We are free to say that the house trap is used to a considerable extent throughout New York State. New York City requires its use, as well as many other cities. Once such a requirement as the house trap gets into a plumbing code, it is generally a long time staying there, even in the face of changing practice.

New York has no legally established state code. A recommended state code has been formulated, however, and has the backing of the State Board of Health, the state organizations of city officials and of master plumbers. It is significant that this code does not require the use of the house trap.

In conclusion, our opinion is that unless required by the local plumbing code, we would favor omitting it, excepting under unusual circumstances.

◆

Forty-Five Degree Pipe Measurement

Editor, DOMESTIC ENGINEERING: I am a subscriber for DOMESTIC ENGINEERING and much pleased with a lot of the articles. There is one thing I wish you would print in an early issue, and that is the method some of the writers use in taking 45-degree measurements. Several different methods seem to be in use by plumbers, and I would like to hear from them.

Illinois. M. L.

Referring to our illustration, Fig. 1, the point of the foregoing is this: with the distance (X) between two horizontal pipe lines being known, what length of pipe will be required to connect them together with a 45-degree offset?

Doubtless there are several different methods of getting these lengths for the various sizes of pipes.

For offsets that are not greater than 3 ft., the following rule is practicable: Add to the distance between the centers of the two parallel lines of pipe, 5 inches for each foot of such distance, and at the same rate for fractional parts of 1 ft. The same result would be obtained by adding 5/12 of

HOW WOULD YOU ANSWER THIS QUESTION?

Why is it considered bad practice to use a down spout as a soil pipe to receive the discharge of fixtures on the first floor?

Answers based upon your experience, and suitable, will be paid for and published in the April 19 issue.

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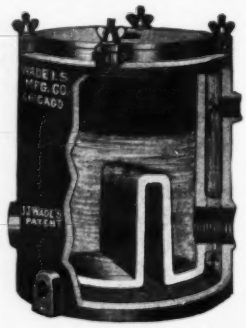

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an inch for each inch of distance between the two lines.

The correct method is to multiply the distance (X) between centers by the multiplier 1.414. While the first method is accurate enough for short offsets, use of this multiplier will give more accurate results for long offsets.

Example Worked Out Two Ways

As an example, if the distance X is 6 inches, the distance AB, that is, the distance between the centers of the two fittings, will be 8.50 inches by the approxi-

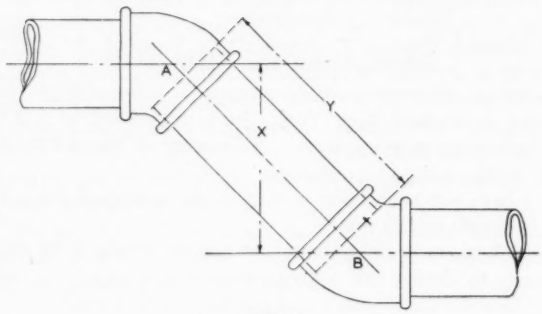


Fig. 1

mate method, and $6 \times 1.414 = 8.48$ by the more accurate method.

From our illustration, Fig. 1, it will be observed that the distance obtained in the foregoing computation is longer than Y, the required length of pipe. Therefore, in using either of these methods, an amount will have to be subtracted equal to twice the distance from A or B to the end of the pipe. This will be easily calculated by looking at the 45-degree elbow that is to be used.

We have an idea that quite a number of other methods of calculating these offsets are probably in use in the plumbing and heating trades, and it would be of unusual interest if we could in a later issue publish a number of these methods. Therefore, please send them in for publication.

We also believe that there must be various methods in use for calculating these offsets without making any fitting allowance.

Table for Various Angles

There are a number of other angles used on pipe fittings, although 45 degrees is by far the most common.

In the following table we show the multipliers for the several angles:

	Multiplier
60 = degree offsets, 1/6 bends.....	1.15
45 = degree offsets, 1/8 bends.....	1.414
30 = degree offsets, 1/12 bends.....	2.00
22½ = degree offsets, 1/16 bends.....	2.61
11¼ = degree offsets, 1/32 bends.....	5.12
5⅝ = degree offsets, 1/64 bends.....	10.22

In using this table, multiply the distance between centers of the two lines of pipe by the multiplier given for that angle, and subtract the fitting allowance.

Do not forget to make this allowance for both ends of the pipe.

◆

LOGAN, W. VA.—The W. E. Duncan Plumbing Co. has been incorporated, with a capital of $25,000, to engage in the plumbing contracting business.

Orange Association Holds Annual Banquet

Members and guests attending the annual banquet of the Master Plumbers' Association of the Oranges, N. J., on February 24 at the Women's club, East Orange, heard a number of interesting speeches and enjoyed an evening of dancing which followed an excellent dinner. At the speakers' table, when the president of the association, George H. Brenner, was formally introduced as toastmaster by Alexander Berg, vice president of the New Jersey association, were A. C. Krieger, state president, with Mrs. Krieger; George Werner, national director and state treasurer, with Mrs. Werner; Past State President William Chesnut with Mrs. Chesnut, together with Mr. and Mrs. Fred Hoffman.

State President Krieger, addressing the gathering, said: "Affairs of this kind serve not only to bring us together in a social way but point toward one of the chief ideals of the organization and aid the members of the auxiliary whose purpose is helping the master plumbers and whose efforts have in many instances been responsible for the holding together of association memberships and carrying on the work." President Krieger also touched on the building program that has been outlined by President Hoover.

Mrs. Hoffman, who is president of the women's auxiliary of the Oranges, spoke of the aims of that organization in cultivating warm friendships and lending a helping hand to the master plumbers.

National Director Werner, talking on the national convention in June, spoke of the educational program that is being arranged by C. W. Wanger, president of Woodward-Wanger Co., Philadelphia. He also mentioned the "On to Boston Club" which has been formed so that master plumbers in the Oranges and vicinity can travel to Boston, the scene of the convention, in a group. The national director also mentioned a few of the historical places in Massachusetts that are to be visited. Past State President Chesnut spoke in emphasis of the expressions of National Director Werner.

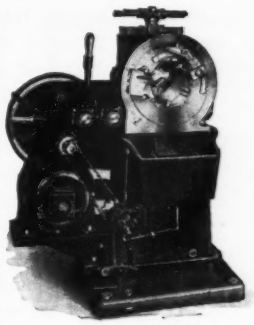
Vice President Berg urged a large attendance at the state convention which is to be held May 13 and 14 in New Brunswick, N. J. Harold Thompson, New York manager of Oster Mfg. Co., Cleveland, talked on associations and the benefits to be secured from close coordination.

Adolf Trapper, Alfred Brady and Thomas Chalmers formed the committee making arrangements for the affair.

◆

Boiler Code Discussed by New York Chapter, A. S. H. V. E.

A discussion, both favorable and unfavorable, to the amendments to the boiler code, preliminary to the monthly meeting of the New York chapter of the American Society of Heating and Ventilating Engineers, held February 17 at the Building Trades club, New York City, in which Willis H. Carrier, first vice president of the society, was the principal participant, brought out the opinion that rating based on performance is the only satisfactory method of rating, due to the wide variance in types, styles and methods of construction. Mr. Carrier stated he understood it is not necessary that each boiler in a line of boilers, similar in construc-



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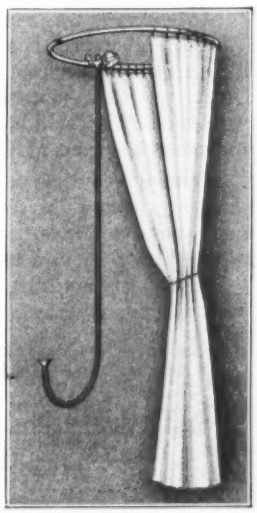

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tion, be tested according to all of the five factors; but if the smallest and the largest sizes are subjected to the tests, and in the event that the battery consists of a large number of sizes, possibly one of the intermediate sizes should also be tested, the balance being rated according to some dimensional plan. This, he believes, would meet the requirements of the society. Mr. Carrier then showed some interesting motion pictures which he took on his recent trip to Japan where he was in attendance at the World Engineering Congress.

Fred W. Hanburger, special lecturer on heating and ventilating at the College of the City of New York, spoke on "Heating Design as Taught and Practiced." Mr. Hanburger stressed the importance of close adhesion to the standards and rules established for heating and ventilating by the architect, owner and contractor, and the necessity for careful study of pipe sizes so that all radiators will get practically the same amount of steam at all times. E. J. Ritchie, president of the chapter, presided.

◆

Western New York A. S. H. V. E. Holds Dinner-Dance

The Western New York Chapter of the American Society of Heating and Ventilating Engineers held its February meeting in the form of a dinner-dance, at the Hotel Buffalo, Buffalo, N. Y. The evening also witnessed the installation of new officers.

A short address was made by President F. H. Burke before he announced the appointment of the following committees: Speakers committee: O. K. Dyer, Walter Johnson and L. A. Cundall; entertainment committee: J. J. Landers, L. N. Castin and H. B. Roarke; membership committee: Joseph Davis, A. E. Tinker and William Roebuck, Jr.

It was decided to hold this year's meetings on the second Monday of the month, at the Hotel Buffalo, until further notice.

◆

Federation Defines Status of Merchant Plumber

The Federation of Merchant Plumber Associations of Southern California, feeling that the term "merchant plumber" has been used indiscriminately by plumbers clearly entitled to its use as well as those whose right is not so clear, has adopted a definition of the term "merchant plumber."

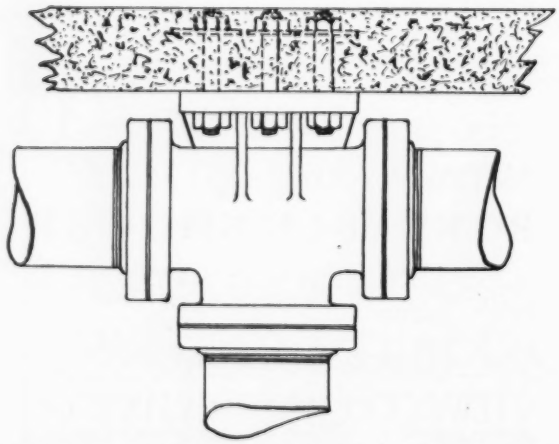
The definition says in part that a man should have served sufficient time as an apprentice and journeyman or to have received a technical or engineering education to give him a thorough technical knowledge of the industry in all its branches and ramifications; he should have passed the examination prescribed by the board of health and have secured a license in compliance with the law; and he should be in sufficient control of his own business so that his policies and methods would not be dictated by someone outside and not in sympathy with the best interests of the industry.

When to Use Pipe Anchorages

Editor, DOMESTIC ENGINEERING:—In connection with the article which appeared in the February 22 issue of DOMESTIC ENGINEERING entitled "Steam Fittings and Accessories," I would like to add a few words about the anchorage of pipes, as follows:

Anchorages are needed on pipe lines subject to temperature changes, in connection with expansion joints and expansion bends. Pipe lines subject to shock and vibration also require anchorages.

These anchorages may be installed in many different ways and for pipe lines located overhead, in tunnels or under building trusses and supports, a pipe fitting with an anchorage base frequently can be used to advantage, as well as being used when the pipe line is near the tunnel floor.



Sketch of an anchorage tee installed in a pipe line near the top of a concrete tunnel

Ends of long steam mains should be provided with an anchorage and a drip pocket or drip leg, of large capacity, in case a slug of water should unexpectedly get into the steam main.

The accompanying sketch shows an anchorage tee installed in a pipe line near the top of a concrete tunnel, which affords a secure anchorage. The side opening being in a downward position, it can be used as a drip pocket, arranged to suit local conditions. The end of the tee can be used to continue the pipe line or be extended upward, if a riser connection is required. A blind flange can be applied to this end of the anchorage fitting, if no supply connection is needed, which allows a convenient way to inspect the interior of the pipe line.

Pipe lines requiring anchorages need an anchorage that is safe, secure and one that will keep the pipe line in accurate and correct alignment. The fitting with an anchorage base meets these requirements. It is good practice to use an anchorage tee in the center of the pipe line when an anchorage is required, and blind the side outlet of this tee. When a pipe line anchorage pulls out the cost of the repair work required to put the line into proper condition is usually greater than that of providing good and secure anchorages, at the time of installation.

Illinois. W. H.

Obituary

William Hey

William Hey, veteran chief of the Portland, Ore., plumbing inspection department died February 20, in his 64th year, following an attack of pneumonia. He had completed 25 years of service begun in the plumbing department, October 3, 1905. His activities with the department gained for him wide recognition.

Mr. Hey was born in Cincinnati, Ohio, but for more than 40 years had been a resident of Portland. Previous to appointment to the plumbing division Mr. Hey was employed by one of the city's earliest master plumbers. He was a member of many fraternal and civic organizations, and is survived by his widow and a sister.

Harvey Bull

Harvey Bull, plumbing contractor of Sparta, N. J., died recently in his 58th year, following a short illness with pneumonia. He is survived by his wife and six children, also a brother and a sister.

J. Thomas Morgan

J. Thomas Morgan, owner and manager of the Morgan Plumbing & Heating Co. of Charleston, W. Va., died recently in his 51st year. He had been in ill health for several months. Mr. Morgan is survived by his widow, two sons, two daughters, one brother and one sister.

Charles H. Frederick

Charles H. Frederick, plumbing contractor of Baltimore, Md., and a member of the Maryland state board of plumbing examiners, died recently at his home.

Mr. Frederick was born in 1865 in Baltimore, and spent all his life there. He was financial secretary of the Association of Master Plumbers of the State of Maryland for 37 years, resigning in 1928. He attended every national convention for 38 years, and served on several national committees.

He is survived by his widow and one son, who has taken over his father's business.

John A. Bemish

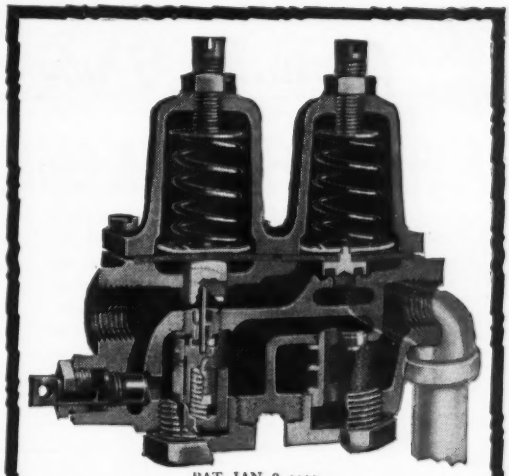
John A. Bemish, master plumber of Corning, N. Y., died at his home in Henrietta, N. Y., recently, following a short illness. He had been engaged in the plumbing and heating business for nearly a quarter century.

Edward L. Rawlings

Edward LeMaster Rawlings, founder and owner of the Rawlings Plumbing Co., Memphis, Tenn., died recently at his home in that city. Mr. Rawlings was in his 75th year.

George M. Cawley, Sr.

George M. Cawley, Sr., who had been engaged in the plumbing business at Newark, N. J., for many years, died recently at his home in that city in his 73rd year. He started to learn the plumbing trade when he was twelve years old, and he was active in his business until three days before his death, all in all, a period of more than 60 years. He was a member of several fraternal organizations.



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Woman's Page

The following encouraging statement appears in a letter recently received from Mrs. John J. Corcoran, publicity chairman of the Jersey City auxiliary, and first vice president of the New Jersey state auxiliary: "We enjoy the Woman's Page in 'Domestic Engineering' very much, and notice with pleasure its ever-increasing growth, for which we extend to you our heartiest congratulations." Many letters are received, expressing the writers' interest in this page, and if all the secretaries will write promptly about the affairs of their auxiliaries, the Woman's Page will be of increasing interest to all.

A Message to Auxiliary Members

By Mrs. M. Mesnard, of Detroit, president of the Women's Auxiliary to the Michigan State Association of Plumbing and Heating Dealers.

Looking down the pathway of the future of the Woman's Auxiliary to the Master Plumbers' Association, I can—I want to—see the way broaden by the addition of many new locals from everywhere, these then, in turn, to grow stronger in numbers, and thereby be able to undertake greater things for the uplifting of our cause and of humanity.

It would seem we are only just beginning to find ourselves and our work. At first we were all strangers to each other, as well as the objects for which we were organized, and we only aimed to maintain a social club. However, in the few years since our organization, we gradually begin to see a change taking place, a systematic program being outlined and definite work mapped out and followed. Gradually we are finding our way into greater activities, which means more influence, power and ability to plan our work and then accomplish it.

There is a very important part the auxiliary must play before we can realize the good of which our workers of the past dreamed. For years, we have been striving to uplift the plumbing and heating industry, and place it among the other professions where it justly belongs. Progress is slow, and it will only gain speed as we of the rank and file give it our support. One step towards progress is the scholarship work. As the years come and go, and we send out capable, efficient and intelligent students to represent the plumbing and heating industry, we can then feel proud of our efforts.

A local auxiliary is dependent upon its individual members for its growth, activities and accomplishments; just so in turn is the state dependent upon the local auxiliary. Your National Auxiliary is only as strong as your several states. Therefore, the success of the several branches of our organization depends upon each individual; consequently it is your responsibility.

There is no neutral ground upon which to rest; we either go forward or backward. As we recognize the importance and necessity of our auxiliary, it should be our inspiration to greater activities.

One suggestion which I feel would be beneficial to locals is to plan and outline your year's work in advance—in other words, a year-book. We have made use of this for two years now, and I know the members realize its benefits and advantages.

In closing, I would urge that our slogan be "Organization and Co-operation."

Now just a few words to the members of the auxiliary in Michigan who may read this page. As your president, I am most anxious and willing to give every assistance possible or help needed to better our organization. Perhaps some one in your local may have an idea or a suggestion that we all might work on. Won't you talk this over in your meetings, and send along anything that might be useful? Eventually, as we strengthen our organization,—local, state and national—when 1930 has passed into the records, we shall find it was a good year, the best year in our history.

Program for Convention of National Auxiliary Announced

National President Mrs. W. E. McAndrew sends in the following announcement:

The twelfth annual convention of the Woman's Auxiliary to the National Association of Master Plumbers will be held in Boston, Mass., June 24-25-26, with headquarters at the Hotel Statler.

Delegates—Each state auxiliary and local auxiliary where no state auxiliary exists are asked to send delegates to the convention with proper credentials.

Dues—Auxiliaries are requested to pay their annual per capita tax, 25 cents, to the National Treasurer, Mrs. Robert Liss, 1919 Belmont avenue, Chicago, Ill., before the first of April.

Scholarship—Auxiliaries wishing to contribute to the National Woman's Auxiliary PAST PRESIDENTS' SCHOLARSHIP will please send subscriptions to Mrs. Robert Liss, treasurer.

Voting—Article 5—Section 2 (National Constitution and By-Laws).—Each auxiliary which numbers twenty-five members or fraction thereof, not less than seven, shall be entitled to one vote in all conventions of the association; and for each additional twenty-five members or fraction thereof not less than seven, shall be entitled to another vote, **provided it has paid its per capita tax** for the members upon which the vote is estimated, and it shall be the duty of the committee on credentials to compare its reports with that of the treasurer and see that the rule is strictly enforced.

Section 3—The active officers of the National Auxiliary, the presidents of the divisions, and the chairmen of the standing committees shall be entitled to one vote in all conventions of the auxiliary, but none of these individual votes can be cast by proxy.

Meetings—Meetings will be held on Tuesday afternoon, 2:30 o'clock, June 24th, Georgian Room, Hotel Statler, and Thursday, all day, June 26th, beginning 9:30 A. M. and 2:00 o'clock P. M.

Reports—All state auxiliaries are asked to report for their combined local auxiliaries; auxiliaries where no state auxiliary exists are requested to make a brief report of their year's activities.

Memorial—Memorial services will be held on Monday afternoon, June 23, at 2:00 P. M. All auxiliaries are asked to send a list of deceased members to National Corresponding Secretary, 4109 Ninth Street, Tampa, Florida.

Respectfully submitted,
Mrs. W. E. McAndrew, President.
Mrs. Frank Williams, Cor. Secretary.

Florida State Auxiliary Holds Special Meeting

On February 19 a special meeting was called by Mrs. Pitt Simpson, vice president of the State Auxiliary. The meeting was held at St. Petersburg, Florida. There were twelve members present. National President Mrs. McAndrew was present and gave an interesting talk. The resignation of the state president, Mrs. L. R. Sheffield of St. Petersburg, was read and accepted. Mrs. Pitt Simpson, vice president, was made president for the remainder of the year. A banquet given by the master plumbers for all the guests was enjoyed in the evening. There were talks by the state president, past state presidents and many others which were most interesting. The coming state convention which is to be held at Bradenton, Fla., was discussed and each person present offered his assistance in making the convention successful. The banquet table was very beautifully decorated with roses, which were given to the ladies, and Washington's birthday favors.

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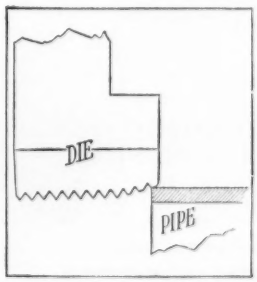

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Made of Red Metal
Every piece air tested under water

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Roast turkey with all its trimmings was enjoyed by all. St. Petersburg received many thanks for this lively get-together.

Texas Auxiliary to Hold Convention in Abilene

From Mrs. Roy Burke of Amarillo, secretary of the Texas state auxiliary, we receive the following announcement:

The annual convention of the Associated Master Plumbers of Texas will be held in Abilene, Texas, on April 14, 15 and 16. The ladies' auxiliary will hold its annual business meeting at this convention and every member, or prospective member, is cordially invited to attend the convention and take part in this meeting. A good time is always assured and interesting auxiliary work discussed. Mrs. George L. Smith, state president, or Mrs. Roy Burke, state secretary, will be glad to hear from any Texas city that would like to organize a local auxiliary before convention time, but whether or not there is a local auxiliary, all are invited to attend the state meeting in Abilene, Texas.

National Officers Plan for Convention

From National Recording Secretary, Mrs. Jessie M. Fanning, we learn that Mrs. W. E. McAndrew, national president, attended a one day convention, in Orlando, of the Needlework Guild. Together they spent most of their time making plans and working on the national convention program, and are doing all they can to make the Boston convention a success.

Detroit Auxiliary Holds Social

The monthly social of the Detroit Women's Auxiliary took the form of a bridge-luncheon, held on February 18. It was the first really fine day of the winter and a very large attendance resulted. Mrs. Minerva Snyder was hostess, and she was assisted by Mrs. Prudhomme, Mrs. Ray Brabyn, Mrs. Carrie Cain and Mrs. Nellie Hughes. A very delicious and bountiful luncheon was served, after which cards were played. As this was the first afternoon card party since October (the auxiliary having had so many other things to take up its time) it was especially enjoyed by all. The Detroit auxiliary also held a business meeting during February. A party had been planned for Washington's birthday, but, owing to the sudden death of Mrs. Ziegler, the party was indefinitely postponed. Members of the auxiliary are planning to attend the state convention to be held in Jackson, March 25 to 27.

Oakland County Auxiliary Elects Officers

At the last meeting of the Women's Auxiliary of Oakland County, Mich., the same officers were returned to the chair, as follows: President, Mrs. Gladys Goodson; vice president, Mrs. Glenn Seeley, and secretary-treasurer, Mrs. Arlene Wernet. The Goodson family is planning to move to California, and auxiliary members are sorry that it will be necessary for them to elect a new president soon. A farewell party for the Goodsons was given by the auxiliary, assisted by the men's association, at the Elizabeth Lake Estate's Clubhouse.

Tacoma Auxiliary Has Active Season

The Ladies' Auxiliary to the Master Plumbers of Tacoma, Wash., has just completed a very successful year. The auxiliary was reorganized a year ago, and during this time the membership has reached twenty-two. Meetings are held twice a month, one meeting being a business meeting and the other a social. Many pleasant occasions have been enjoyed during the year. In addition to the social affairs, time and money have been devoted to worthy charitable causes. Members of the auxiliary also work in

harmony with the master plumbers' association, and in this way real friendliness is promoted. Retiring officers for the past year are: Mrs. P. Norman, president; Mrs. R. Minkler, vice president; Mrs. F. MacCallum, secretary; Mrs. G. Weber, treasurer. The new officers are: Mrs. R. Minkler, president; Mrs. B. Olson, vice president; Mrs. J. B. Fitts, secretary-treasurer. A birthday dinner was planned, as the auxiliary was a year old in February.

Boston Auxiliary Gives Card Party and Dance

The Women's Auxiliary to the Master Plumbers' Association of Boston and Vicinity, Inc., held the first of a series of card parties and dances, on Thursday evening, February 27, at the Brighthelmstone Club, Allston, Mass. The affair was very well attended, about two hundred being present. Bridge and whist were played in the foyer and in the banquet hall. An excellent orchestra played the entire evening for dancing in the ball-room. Ice cream and home-made cake were served to all. The auxiliary is running these pleasant affairs for the purpose of cooperating with the Massachusetts State Association of Master Plumbers to make the coming national convention in Boston a great success. The association extended its appreciation to the auxiliary for their friendly and unselfish activities in their behalf. The committee in charge of these social affairs consists of: Mrs. Leo Rose, chairman; Mrs. J. Preston Perham, past president of the state auxiliary; Mrs. Charles D. Kieser, president of the state auxiliary; Mrs. Andrew F. Curtin, Miss McKenna, Mrs. James G. Gillespie, Mrs. A. I. Russell and Mrs. Angelo Minella.

Mrs. Charles D. Kieser, president of the Massachusetts state auxiliary

Mrs. J. Preston Perham, past president of the Massachusetts auxiliary

Mansfield Auxiliary Hears Convention Report

The Master Plumbers' Auxiliary of Mansfield, Ohio, recently met at the home of Mrs. Homer Frye on Marion avenue, with nine members present. The afternoon was spent in sewing, with a short business session, at which time Mrs. Roy Learch, delegate to the state convention, gave a most interesting report of all business and social activities of the convention. A delicious luncheon was served by the hostess. The next meeting will be held at the home of Mrs. Alex. Grassick on March 27.

Boston Auxiliary Holds Meeting

The February meeting of the Women's Auxiliary of the Boston Association of Master Plumbers was held at the home of Mrs. Jonas Larraway in Winchester. The president, Mrs. H. L. Rose, presided, all the officers were present, and the interest shown in this auxiliary was evi-

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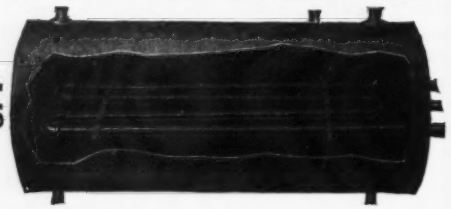
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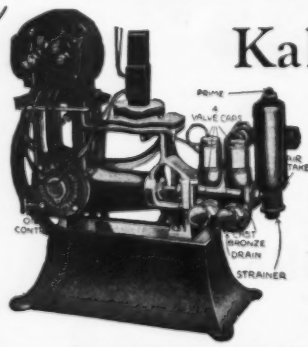

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denced by the largest attendance at any meeting held so far. Plans were completed for the auxiliary's party. Also, the part that the auxiliary will take in assisting with the entertainment of those attending the national convention to be held in Boston in June was discussed. Following a lengthy meeting, the members were joined by their husbands who had been attending the conference at the Massachusetts Institute of Technology. Delicious refreshments were served, and a delightfully pleasant hour passed before the departure for home.

Albany Auxiliary Holds Meeting

The Ladies' Auxiliary of the Albany, N. Y., Master Plumbers' Association held its regular monthly meeting on February 21, in its rooms at 119 State street. This recently-organized auxiliary already has a thriving organization of twenty-eight members. On adjournment of the regular business meeting, luncheon was served, after which many amusing and interesting games occupied the rest of the evening. The hostesses for this very pleasant evening were Mrs. M. Farrell, Mrs. C. Hausman and Mrs. Albion J. Eckert.

Death of Mrs. Ziegler

From Mrs. Nellie Hughes, corresponding secretary of the Detroit Auxiliary, information comes of the death of Mrs. Emily Ziegler, one of its best-loved and most active members. The death of Mrs. Ziegler, which occurred on February 22, was a great shock, as it took place after an illness of only three days. Mrs. Ziegler is survived by her husband and by two children, Donald and Doris.

Germantown Auxiliary Elects Officers

The Germantown (Pa.) Women's Auxiliary elected officers at the meeting held on Tuesday, March 4. The new officers are as follows: President, Mrs. D. Stevens; vice president, Mrs. J. Rooney; secretary and treasurer, Mrs. J. Rush.

Denver Auxiliary Holds Meeting

The Ladies' Auxiliary to the Denver, Colo., Master Plumbers' Association met on Wednesday, February 26, at the home of Mrs. Julia Hensler. A delicious luncheon was served at one o'clock, and enjoyed by eighteen members. After the business meeting, whist was played and honors went to Mesdames Kandorf and Mellema. A card party was planned for March. These affairs are always of great interest to all.

Canton Auxiliary Gives Card Party

The Ladies' Auxiliary and the Master Plumbers' Association of Canton, Ohio, were entertained on the evening of February 25 at the association rooms with a card party. Five hundred was played, with Mrs. C. G. Hahn, Mrs. Walter Zernechel, Mrs. William Zernechel, A. W. Baum and C. G. Hahn winning honors. A delightful luncheon was served at the card tables by Mrs. U. I. Bott, Mrs. John Roth, Mrs. Robert Heiman and Mrs. A. W. Baum. Meetings of this kind are held every three months, when the auxiliary entertains the master plumbers.

The regular monthly meeting was held at the home of Mrs. U. I. Bott, 1248 Eleventh street, N. W. She was assisted by Mrs. William Grabowsky. Mrs. A. W. Baum gave her report of the state convention. The Canton Master Plumbers' Association and the Ladies' Auxiliary are to entertain the state convention in February, 1931. Five hundred was played, with Mrs. Walter Zernechel and Mrs. C. G. Hahn winning honors. The next meeting will be held on Tuesday, April 1, at the association rooms. Mrs. D. J. Ahearn and Mrs. August Schwitzgable will act as hostesses.

Business Changes

San Francisco, Calif.—L. C. Weyand & Co. has moved its plumbing, heating and hardware business from 549 Valencia street to 688 Church street.

Durant, Okla.—Charles H. Huber has purchased the Locke Plumbing Co. from J. S. Locke, and will continue the business under his own management. Mr. Locke plans to engage in business in west Texas.

Mansfield, Ohio—The Grossman Hardware and Plumbing Shop has moved from 224 Glessner avenue to 328 West Fourth street. W. F. Grossman is manager.

Peoria, Ill.—Leonard Sidell has leased the garage building on White court, and will reopen his plumbing shop at that address.

Buffalo, N. Y.—C. Wilson, Inc., plumbing and heating engineers, has changed its corporate name to C. Wilson's Plumbing Shop on Wheels, Inc.

Erie, Pa.—Gust Krack and Son, Inc., heating and ventilating engineers, 1015 West Eighteenth street, has completed and is now occupying a modern salesroom at that address. Formal public opening was held on March 1.

Dallas, Ore.—Guy Brothers are remodeling their plumbing and heating shop and will install a steam heating plant.

Topeka, Kan.—The Johnson & Beck plumbing and heating firm has changed its name to the Beck-Baer Co. The interest of Dudley Johnson has been purchased by Mr. Beck and Charles J. Baer.

New Business Ventures

Hollandale, Minn.—The Hollandale Plumbing & Electric Shop has been opened here to engage in the plumbing and electric contracting business.

Norfolk, Va.—John J. Shanahan, Inc., has been incorporated, with a capital stock of $50,000, to continue the plumbing and heating business of John J. Shanahan, 217 Freemason street.

Los Angeles, Cal.—The Charles E. Ryker Plumbing Co. has engaged in the plumbing and heating business at 783 Annandale boulevard, under the management of Charles E. Ryker.

Arcade, N. Y.—The Arcade Heating and Ventilating Co. has been organized and incorporated, with a capital of 200 shares of no par common stock, to establish and operate a heating and ventilating contracting business. The new concern is represented by Falk and Falk, Buffalo, N. Y.

Portland, Ore.—The Alameda Plumbing & Heating Co. has been incorporated to engage in the plumbing and heating business, with a capital of $10,000, by F. M. Metcalf and Thomas E. Hume.

Seattle, Wash.—J. A. Hurley, Inc., has been chartered to engage in the plumbing and heating business, with a capital of $15,000, by J. A. Hurley and John Lichty.

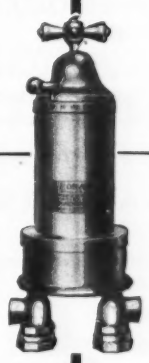
Portland, Ore.—The General Plumbing & Heating Co. has engaged in business at 6150 Foster road, under the management of C. A. Lynds.

Detroit, Mich.—The Advance Plumbing & Heating Co. has been incorporated, with a capital of $1,500, at 635 First National bank building.

Goldsboro, N. C.—The W. O. Mitcham Co., Inc., has been chartered, with a capital stock of $15,000, to engage

WATER MIXING VALVES

Thermostatic Control. Easy to operate. Any flow at any temperature. Solid metal thermostat automatically maintains temperatures.



LEONARD

Leonard Mixing Valves have a reputation for their sturdiness and dependability. They will pay for themselves many times over in time and money saved.

The complete story is told in our catalog. Send for it.

Manufactured by

LEONARD-ROOKE COMPANY

Incorporated 1913

Providence :: :: Rhode Island

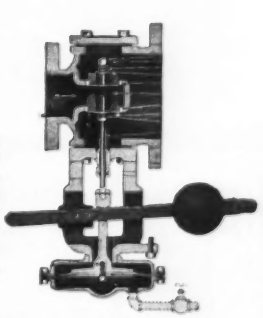
QUALITY SIMPLICITY

KIELEY

REGISTERED TRADE MARK

Efficiency

always OUT-EARNS its cost



Because Kieley Steam, Water, Air, Gas and Oil Specialties are efficient . . because they eliminate leakage . . . are easily accessible . . . because they hold records for endurance and dependability, there is no doubt in the fact that they soon *out-earn their costs.*

Every Kieley & Mueller product has been developed slowly and can be depended on to be absolutely safe for the service intended.

Write for catalog No. 57. It contains 250 pages of valuable information on Pressure Control and Regulation. No obligations.

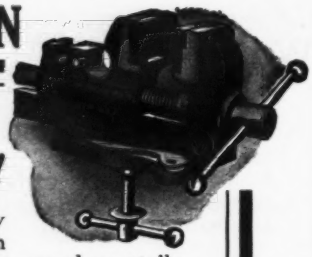
KIELEY & MUELLER, Inc.

Established 1879

34 WEST 13TH ST. NEW YORK CITY

STEAM, WATER, AIR SPECIALTIES

VANDERMAN



Tougher than tough!

That's what you'll say about the Vanderman Bench Pipe Vise when you see how easily it handles all work from 1/8 to 10 inches.

Ask us for all the details.

The VANDERMAN MFG. CO.
WILLIMANTIC CONN.

HEAT
the EASIEST and CHEAPEST WAY

You can make MORE PROFIT by installing Newports. They're noted for the kind of service your clients want. HEAT the EASIEST and CHEAPEST WAY. Magazine (Gravity) feed—half the care. Use fuel that costs $5 to $7 less per ton—half the expense. Uniform heat—twice as comfortable. Get started now. Write today for our 1930 plan to make more sales and profit.

NEWPORT BOILER COMPANY
400 W. MADISON ST., CHICAGO
Distributors in all principal cities

NEWPORT
MAGAZINE FEED
BOILERS

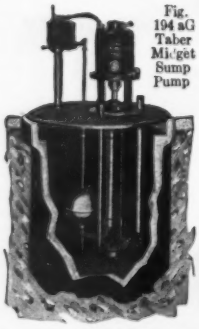


Fig. 194 aG Taber Midget Sump Pump

FLOOD CONTROL!
for every basement

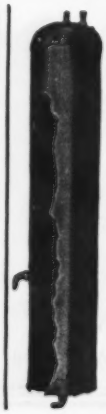
The few dollars extra cost for Taber Sump Pumps is well invested.

A Taber Sump Pump installation means Positive Automatic Relief from flooded conditions in basements.

Once installed, Taber Sump Pumps need no servicing . . . thus they are the lowest cost pumps to buy!

Write for description and prices. See Page 923, Domestic Engineering Plumbing and Heating Catalog.

TABER
TABER PUMP CO. *Est. 1859*
290 Elm Street, Buffalo, New York



You'll find G. & C. Copper tanks on the leaders

The Sepco Electric Water Heater is one of the big satisfiers to all of its users.

Like many of the other leaders, it uses the Gerstein & Cooper genuine copper tank.

Write for details.

GERSTEIN & COOPER CO.
1 West Third St., So. Boston, Mass.
New York Office: 166 W. 72nd St., N.Y.C.
Canadian Agents:
G. Mason Price, 832 St. James St. Montreal, Quebec, Canada

in the plumbing and heating business, by W. O. Mitcham and J. T. Swisher.

Portland, Ore.—Milton Keyser & Son, Inc., has been chartered to engage in the plumbing and heating business by Charles M. Keyser and B. V. Keyser.

Menasha, Wis.—The Menasha Plumbing and Heating Co. has been incorporated to conduct a plumbing and heating business by George Wiese, Irene Wiese and Effie Zschaechner.

New York City.—The L. and M. Plumbing and Heating Co. has been organized and incorporated, with a capital of $10,000, to establish and operate a plumbing and heating contracting business in the Bronx. The concern is represented by M. Permut, 302 Broadway.

Brooklyn, N. Y.—The American Ideal Heating Co. has been incorporated with a capital of $10,000, to establish and operate a heating contracting business. The new firm is represented by Aufesser, Murray and Pedlow, Albany, N. Y.

Green Bay, Wis.—Kissel Bros., Inc., plumbing and heating contractors of Hartford, Wis., have opened a showroom and shop at 324 Main street, Green Bay.

Brooklyn, N. Y.—The Hemlock Heating Corp. has been organized and incorporated, with a capital of $5,000, to establish and operate a heating contracting business. The new concern is represented by M. H. Mandel, 27 Pennsylvania avenue, New York City.

Brooklyn, N. Y.—The Jay Plumbing and Heating Corp. has been organized and incorporated by J. H. Karp, 215 Montague street, and associates, with a nominal capital of 100 shares of no par value stock, to establish and operate a plumbing and heating business.

New York City.—The Morningside Plumbing and Heating Co. has been organized and incorporated, with a capital of $10,000, to establish and operate a plumbing and heating contracting business. S. D. Spector, 2 Lafayette street, represents the new firm.

New York City.—Pogul and Bishop, Inc., has been incorporated, with a capital of $10,000, by A. D. Pogul and L. M. Bishop, to establish and operate a plumbing and heating contracting business in the Bronx. The concern is represented by Hallock and Hallock, 999 East One Hundred Eightieth street, the Bronx.

Brooklyn, N. Y.—The Escon Corporation has been organized and incorporated, with a capital of $10,000, to establish and operate a plumbing contracting business here. The new concern is represented by L. J. Miller, 405 Stone avenue.

Brooklyn, N. Y.—Eugene Wade and associates have organized and incorporated the firm of Eugene Wade, Inc., with a nominal capital of 200 no par common shares, to establish and operate a plumbing and heating contracting business. O'Connell and Butler, 11 Park place, New York City, represent the new concern.

Long Island City, N. Y.—Jacob Stockinger, Inc., has been incorporated with a capital of $5,000, by Jacob Stockinger and associates, to establish and operate a plumbing and steamfitting contracting business. The new concern is represented by W. H. Siebrecht, Jr.

Perth Amboy, N. J.—The National Home Heating Co. has been organized and incorporated, with a capital of $50,000, to establish and operate a plumbing and heating business. The new firm is represented by L. M. Waite, Perth Amboy.

Brooklyn, N. Y.—The Embe Heating Co. has been incorporated, with a capital of $10,000, to establish and operate a heating contracting business. The concern is represented by H. Grill, 41 Park Row, New York City.

Chicago, Ill.—The Economy Plumbing & Heating Co., Inc., 1308 South Crawford avenue, has been incorporated with a capital of $200,000, by Charles M. Ross, J. Kominsky and S. R. Malkin. The concern is represented by Malkin & Malkin, 33 North La Salle street, Chicago.

Little Rock, Ark.—Lazarus, Inc., has been incorporated, with a capital of $10,000, by H. S. Lazarus, S. R. Lazarus and H. G. Wade, to engage in the plumbing contracting business.

Buffalo, N. Y.—The Newbold Plumbing and Heating Co. has been organized and incorporated, with a capital of $6,000, to establish and operate a plumbing and heating contracting business. W. P. Colgan, local attorney, represents the new firm.

Buffalo, N. Y.—The S. and E. Heating and Sheet Metal Works has been established as a partnership, by Walter Schwippert and Wolfang Ertl. Headquarters have been opened at 32 Roetzer street, where the concern will engage in the heating contracting and engineering business.

Clifton, N. J.—Van Varick, Inc., has been chartered, with a capital of $50,000, to establish and operate a plumbing contracting business. The new concern is represented by George F. Schmidt, local attorney.

Kerrville, Tex.—W. W. Barnes & Co. has leased quarters in the Wright building on Sidney Baker street, and will open a plumbing and heating business.

Newark, N. J.—Charles Wiener and Sons, Inc., has been organized, with a capital of 100 shares of no par common stock, to establish and operate a plumbing contracting business. Representing the new concern is the firm of Braelow and Tepper, local attorneys.

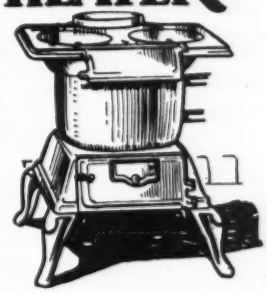
New York City—The Art Craft Plumbers, Inc., has been chartered, with a capital of 400 shares of no par common stock, to establish and operate a plumbing contracting business. M. Mayer, 21 East Fortieth street, represents the new concern.

Belleville, N. J.—The Young Plumbing Co. has been organized and incorporated, with a capital of $25,000, by T. H. Young and associates, to establish and operate a plumbing contracting business. The new concern is represented by G. R. Jackson, Newark, N. J.

Brooklyn, N. Y.—Leonard Badia and associates have organized and incorporated the Badia Plumbing and Heating Corp., with a capital of $5,000. The new concern, represented by A. Reiss, 122 East Forty-second street, New York City, will establish and operate a plumbing and heating contracting business.

Left to right: William Krug, plumbing inspector of Sioux City, Iowa, and William Lavelle of Sioux City. Photos taken at recent convention of Iowa Master Plumbers Association

Any house NEW or OLD, piped for water, can use a KING TANK HEATER



ON only one bucket of coal a day, the King Tank Heater heats all the water needed by a large or small family. The strong, compact construction gives it years of life. You can entrench yourself in your customers' good-will by selling these heaters. You make good, easy profits. Write for complete information or order from your jobber.

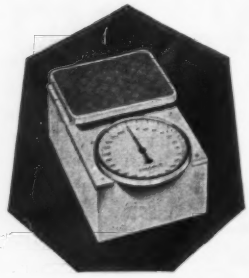
OAKLAND FOUNDRY CO.
DEPT. D. E.
Belleville Illinois

Plumbers tell us why they prefer to install ALBERENE STONE LAUNDRY TUBS

"It is no trick at all to 'walk' an Alberene fixture, particularly if it is one of the new compact two-part tubs. I've thrown away my liniment."

ALBERENE STONE COMPANY
153 West 23rd Street New York City

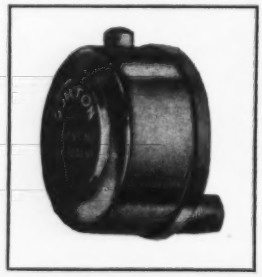
Sell This



A bathroom or health scale that can be sold for $12.00. Larger model for $15.50. Attractive with appealing lines, colors. Six-spring mechanism, 250-lbs. Guaranteed for life. This scale cannot tip. Write for prices.

HANSON SCALE COMPANY
546 North Ada Street, CHICAGO

The GORTON SUREVENT AIR VALVE



This valve has been designed to meet the demands of the modern OIL BURNING Steam Heating System. Thermostatic control produces conditions that only an advanced valve of this type can correct. It's NEW — DIFFERENT — BETTER.

Write for full details about EQUALIZING STEAM SYSTEMS

Manufactured and Guaranteed by
GORTON HEATING CORPORATION
96 LIBERTY STREET NEW YORK

a real PROFIT item for you

The Crest Heat-pruf* Faucet Cushion is a perfected product. It will not harden on your shelves, nor mush or swell even in the hottest water. It positively will not "hammer."

The Crest Heat-pruf* is easy to sell. Price is standard and moulded on every one. Every sale brings full profit.

We help you sell Heat-pruf*. Send for advertising aids and an assortment of 500 Heat-pruf* today.

**Trade Mark*

CREST MANUFACTURING CO., Inc.
CREST BUILDING, 4-65 Forty-eighth Ave.
LONG ISLAND CITY, NEW YORK

FOR ALL LEAD WORK

YAGER'S SOLDERING SALTS

Ask those who use Yager's Soldering Salts about the time and patience saved in all lead work done with Yager's.

Then write for the sample can. Address Dept. "D".

ALEX R. BENSON CO., Inc., Hudson New York
For list of distributors see McRae Blue Book for 1930
Sales Agency for Canada:
Canadian General Electric Co., Ltd., Toronto and Montreal

New Trade Literature

Circulars of A. C. Horn Co.

A. C. Horn Co., of Long Island City, N. Y., is sending out two circulars describing its weatherstrips. Directions for applying the weatherstripping are given. The circulars also include lists of schools, hospitals, apartments, office buildings, and hotels, where this weatherstripping has been used.

Bulletin of Fulton Sylphon Co.

Fulton Sylphon Co., of Knoxville, Tenn., is sending out its Bulletin R-103 describing its automatic radiator valve. This valve is a combination packless radiator valve and temperature control unit, for use with two-pipe steam heating systems utilizing either floor or ceiling radiators. It is designed to operate automatically when there is a variation in the room temperature and to regulate automatically the flow of steam to the radiator to which it is attached. The bulletin shows a diagram of this radiator valve.

"Modern Interiors"

"Modern Interiors" is the title of a twenty-nine page book just issued by Herman Nelson Corp., of Moline, Ill. The pages are eleven by sixteen inches, with large illustrations in sepia. Part One gives photographic reproductions of modern home interiors, showing the "immured" type of concealed radiators. Part Two gives photographic views of offices, apartments and hotel interiors, showing "paneled" type of invisible radiators. Designs of grilles for either type are also illustrated.

Circular of San-Equip, Inc.

San-Equip, Inc., of Syracuse, N. Y., is sending out a circular describing its sewage disposal system for suburban and rural homes. The construction of the sewage disposal system is described in detail, and diagrams point out the various parts. Information is also given as to the company's advertising campaign carried in national magazines.

Vapor Heating Systems

Jas. P. Marsh & Co., of Chicago, have just issued Bulletin No. 100, describing their vapor heating systems. The bulletin starts with the elementary principles of vapor heating, and discusses the functions of the various specialties of the company's make. Diagrams, detail drawings, cut-away views, and sketches of installations are given in the bulletin.

Circular of E. T. Rugg Co.

E. T. Rugg Co., of Newark, Ohio, is distributing a circular describing its oakum, and the method of its packing. The circular also calls attention to the advertising blotters prepared by this company.

Wall Hangers of Sands Mfg. Co.

Sands Mfg. Co., of Cleveland, Ohio, is distributing two wall hangers. One, with the heading, "Oceans of Hot Water," measures 27 by 41 inches, is printed in several colors, and has a large illustration of the company's water heater. Several small illustrations show the convenience of hot water at the lavatory, sink, etc. Another wall hanger measures 23 by 30 inches, is also printed in colors, and contains many illustrations of water heaters of various types.

Catalogs of Clayton & Lambert Mfg. Co.

Clayton & Lambert Mfg. Co., of Detroit, is sending out its Catalog D, "Fire Pots and Torches," with a supplement, "Repair Parts for Fire Pots and Torches." The construction of fire pots and torches is described, and several styles are illustrated. The supplement lists and illustrates all repair parts.

Pipelines Connected by LYT

TO HELP BUSINESS ALONG

Since the President has sent out his call for speeding up the wheels of business we have been cudgeling our brains for something which would fit in with his campaign. Here's our plan, in the form of a slogan:

SMASH THINGS UP!

Suppose the hat industry to be in a bad way. Every time you pass a man with an iron Kelly on, pull it over his ears until it splits across the top, or pull it off of his head and kick it ahead of you along the street.

Conservatively speaking, there are 5,134,134 Kellys on the street. Think of the lift to the hatters if five million of them were demolished in the next sixty days!

Stimulate the paper industry in your community by not paying your debts so promptly. This means more bills and more paper used. But come to think of it, your customers might try this on you so we'll leave that out.

When you have had your luncheon tomorrow, don't wait for the waitress to clean off the table. One sweep of the arm will be sufficient to create business for the people who make dishes.

We leave other possible forms of assistance in speeding up the business of the country to your own imagination. By all means don't forget to take lollypops away from children so this important industry may thrive on increased sales.

MAYBE OHIO HAS POTATOES TO SELL

Mashed Potatoes

(Ohio State Journal)

A steaming dish of fluffy, white, mashed potatoes, with melting butter running in golden trickles down the heaped sides, and a dash of black pepper to add to the color scheme, is hard to resist. Brown steak gravy of just the right thickness added in just the right quantities on a plateful of the potatoes is fit for kings or presidents. Mashed potatoes and steak gravy are good at any time and enthusiasts relish them in hot, cool, or cold weather, but they are particularly appetizing at the evening meal this time of the year when the fast lowering night of winter settles down upon the earth and all outside is hazy and drear. They add spirits to the dull atmosphere of routine work and provide a bright spot that shines throughout the evening. When bedtime comes he who has eaten mashed potatoes and steak gravy can retire with the assurance of a deep and restful sleep throughout the night.

"SY" SEZ

"What makes you think that automobiles were not unknown to an earlier civilization?"

"Well, how else can you account for the kangaroo?"

If you believe what he tells you, you're in love.

"SY" MARTIN, Owensboro, Ky.

EFFECTIVE

The head of a large business house brought a number of these "Do It Now" signs and hung them up around his offices. After a few days he counted up the results: He found that his cashier had skipped out with $20,000, the head bookkeeper had eloped with the stenographer, three clerks had asked for a raise in salary and the office boy had lit out for the West to become a highwayman.

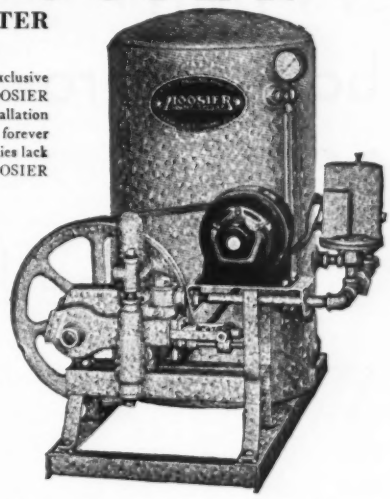
ROCHESTER G. & E. NEWS.

And to make the story complete, he probably took the signs down immediately, and in doing so fell off a step ladder and broke both legs.

L Y T.

HOOSIER

MODERN WATER SYSTEMS



MANY new, improved exclusive features make the HOOSIER the ideal water service. Installation of a HOOSIER abolishes forever the drudgery that accompanies lack of water under pressure. HOOSIER systems furnish water from any source of power—electricity, gasoline, wind — and draw water with equal satisfaction from wells, springs, or lakes. The HOOSIER is very economical to operate. The famous GalVAZink rust-resisting coating, inside and out, makes for many years of carefree, uninterrupted service. Write for details without obligation.

FLINT & WALLING MFG. CO.
76 OAK STREET, KENDALLVILLE, IND.

FLINT & WALLING MFG. CO. HOOSIER Water Service KENDALLVILLE, INDIANA, U.S.A.
HOOSIER PUMPS
HOOSIER CYLINDERS
★ STAR ★ WINDMILLS
REGISTERED TRADE MARK U.S. PAT. OFFICE

Hinges of the Better Kind

Hinge No. 100—Close-Ruf

GRAND HAVEN BRASS FOUNDRY
Grand Haven, Michigan
Hinges for all types of toilet seats
All hinges can be furnished Crodon Plated if so desired.

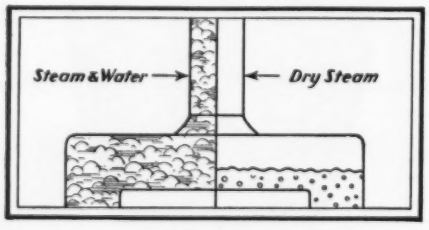
When boilers throw water YOU get the blame

WHEN an angry owner calls you to tell you that one of your boiler installations has thrown water, ruining rugs, floors and furniture, it is usually not your fault, or the fault of the boiler either. But you get the blame. Now science gives you protection against this nuisance.

NOFOME

The product that ends boiler foaming and priming forever

absolutely stops and prevents boiler foaming whether in an old or new installation. When the boiler foams the cause is a chemical reaction in the water. And this reaction cannot take place when No Fome is used. The diagram below shows how No Fome instantly stops foaming.



Order NoFome through your jobber, or direct from us, sending your jobber's name so that we can bill through him.

FEDERATED LABORATORIES, INC.

229 East 38th Street, New York City

© F. L. Inc. 1930

Bath a Day Movement

The number of ways in which an industry's message can be made over into publicity that will be interesting to large numbers of people is small. But in preparing "The Story of the Bath" for the use of the plumbing industry, it is unquestionably true that DOMESTIC ENGINEERING *hit the nail on the head and chose to present the idea of health and sanitation in a way that would interest the greatest number of people in an effective way.*

171

The proof of that is in the fact that so many school authorities have seen fit to use the booklet as supplementary reading in the schoolrooms. That means that there is nothing of the air of commercial propaganda about it. It means that the message has been presented in a way that will be most effective because at no point can the reader say that here he is being urged to do anything more than absorb an interesting story of health through frequent bathing.

Yet when he has read it, he must have a different idea of what place plumbing holds in civilization. The booklet has been used in the schools of 171 cities and towns. If it hasn't been used in your community, write us for a free copy, read it, and you'll see why it would be to your advantage to have your community talking about it.

Epigrams—For Your Use

The pathway of life is marked by the graves of men who died defending rights not worth defending.

* * *

Marriage is a lottery—therefore alimony is a gambling debt.

* * *

Experience resulting from matrimony is a great teacher.

* * *

The first time a girl goes to Europe she expects a proposal from a prince.

* * *

There seem to be more blockheads in the world than wooden legs.

* * *

A girl never really seems to enjoy being in love unless it makes her miserable.

* * *

The angels men marry soon shed their wings.

* * *

Sometimes a man is worth more to the undertaker than he is to his family.

* * *

The man who thinks that he understands women isn't a prolific thinker.

* * *

If the under dog started the fight he is not entitled to sympathy.

* * *

Sooner or later the wise fish runs across a bait that fools him.

* * *

Ignorance is the stepmother of all arguments.

* * *

The wise speculators never speculate.

* * *

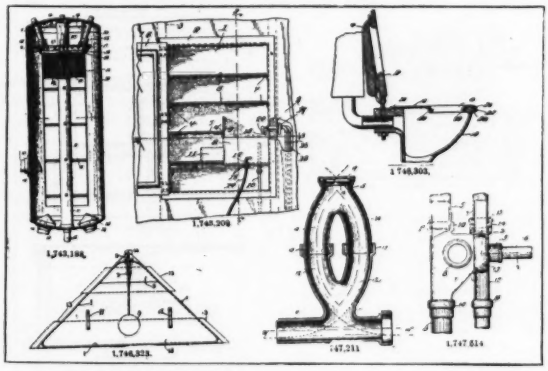
It is surprising what a large amount of nothing some men can accomplish.

PATENTS

Plumbing Department

1,745,209. Bathroom Cabinet. Deil Donovan, St. Louis, Mo.

1,743,188. Water Heater. John J. Byrnes, Chicago, Ill.



1,747,211. Sewer-Clean-Out Box. Norman Z. Ball, Norfolk, Va.

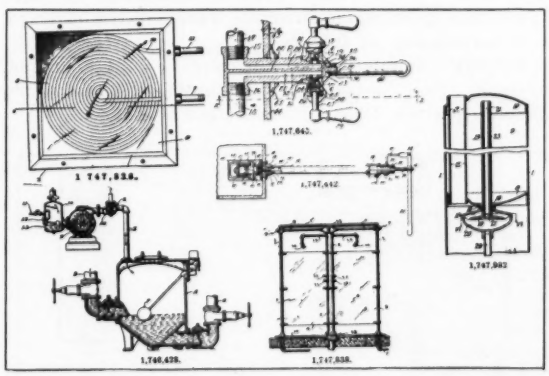
1,747,514. Connecting T for Drainage Fittings. Edward Kennedy, New York, N. Y.

1,746,303. Seat for Toilet Bowls. Alfred M. Bonin, Jr., Pawtucket, R. I.

1,746,323. Domestic Hot-Water Supply System. Thomas William Taylor, York, England.

1,746,428. Sewage-Ejecting System. Irving C. Jennings, South Norwalk, Conn.

1,747,442. Drain Valve. Joseph L. Hutchings, Olean, N. Y.



1,747,640. Faucet Fitting. George J. Morris, Los Angeles, Calif.

1,747,826. Solar Water Heater. Jay Avery Gould, Andover, Mass.

1,747,838. Compartment Shower Bath. Howard A. Mullett and Herman E. Heine, Milwaukee, Wis., assignors to Bradley Washfountain Company, Milwaukee, Wis., a Corporation of Wisconsin.

1,747,982. Gas Water Heater. Victor Mauck, Norristown, Pa., assignor to John Wood Manufacturing Company, Conshohocken, Pa., a Corporation of Pennsylvania.

1,748,180. Soldering Flux. Charles D. Lawhon, Knoxville, Tenn., assignor to The Fulton Sylphon Company, Knoxville, Tenn., a Corporation of Delaware. A soldering flux comprising a solution of aniline hydrochloride.

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Troy .. N. Y.

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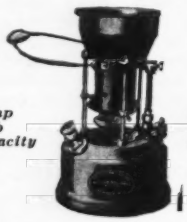

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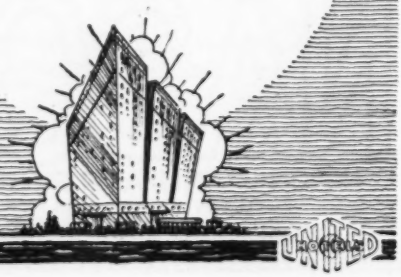
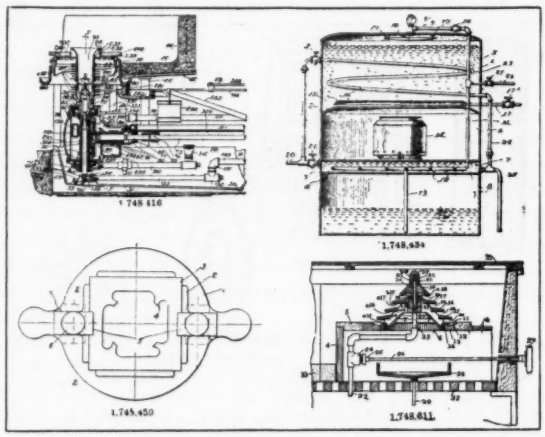


Heating Department

1,748,416. Oil Burner. Franklin Hardinge, Chicago, Ill., assignor to Hardinge Brothers, Inc., Chicago, Ill., a Corporation of Illinois.

1,748,434. Refrigerating Apparatus. Neil B. Wolcott, Washington, D. C., assignor to Thermo-Ice Corporation, Auburn, N. Y.



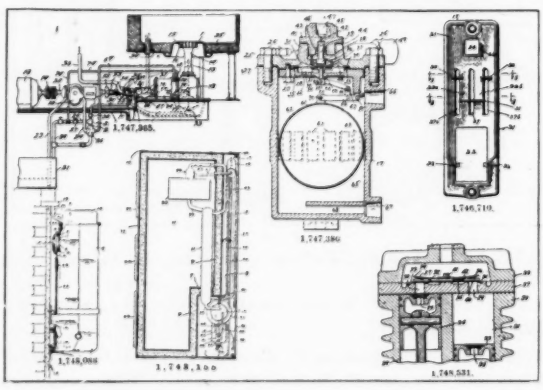
1,748,459. Diestock. Thorvald Petersen, Erie, Pa., assignor to Reed Manufacturing Company, Erie, Pa., a Corporation of Pennsylvania.

1,748,611. Fuel-Oil Burner. Caleb J. May, Bellingham, Wash., assignor of one-fourth each to Charles B. May, Ivan D. May, and James W. Hutton, Bellingham, Wash.

1,746,710. Heating Apparatus. Andre M. Mertzanoff, New York, N. Y., assignor to American Radiator Company, New York, N. Y., a Corporation of New Jersey.

1,747,365. Oil Burner. Franklin Hardinge, Chicago, Ill., assignor to Hardinge Brothers, Incorporated, Chicago, Ill., a Corporation of Illinois.

1,747,386. Refrigerating Apparatus. Olaf C. Olsen, Cleveland, Ohio, assignor of two-thirds to The Borden Company, Warren, Ohio, a Corporation of Ohio.



1,748,088. Radiator-Thermostat Mounting. Clarence C. Shipp, Indianapolis, Ind.

1,748,155. Refrigeration. Baltzar Carl von Platen and Carl Georg Munters, Stockholm, Sweden, assignors to Electrolux Servel Corporation, New York, N. Y., a Corporation of Delaware.

1,748,531. Refrigerating Apparatus. George M. Troup, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware.

"Domestic Engineering" Quarterly Index

Vol. CXXX—January 11 to March 22, 1930

This is the eighty-first index of "Domestic Engineering," an index for each quarter appearing at the end of that quarter. We ask our readers to note the value of this index for reference, calling special attention to the separate classifications of the departments of "Retail Advertising Service," and "Merchandising Articles," both of which contain many valuable ideas along the line of trade extension.

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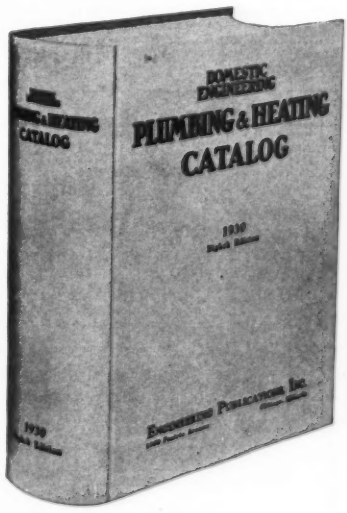

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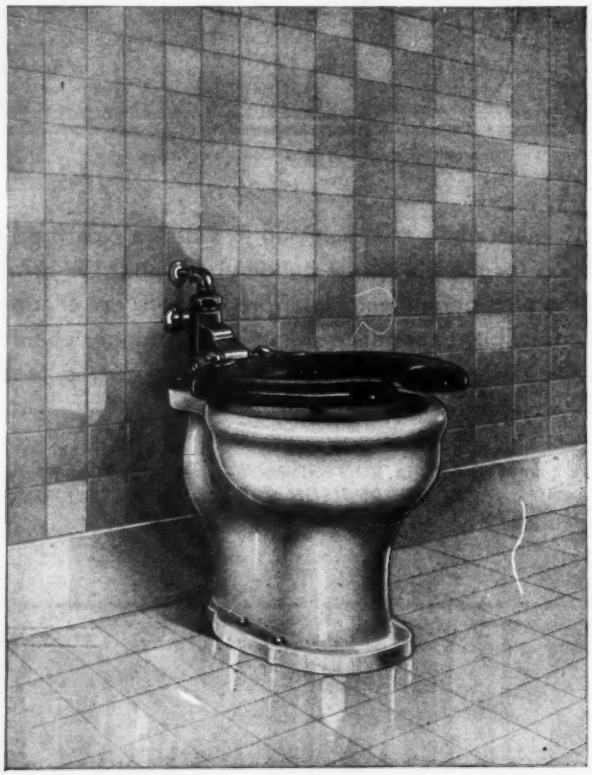

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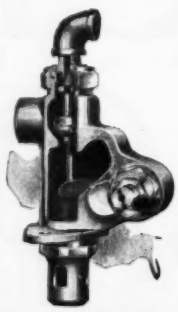

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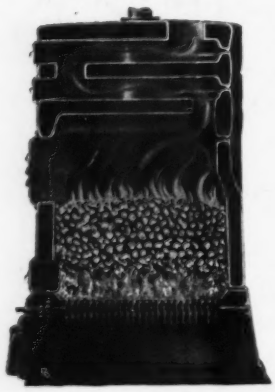

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